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Yours Fthly
H. Hemsley.

ROCK AND ALPINE GARDENING.

By H. HEMSLEY, F.R.H.S.,
Rockwork Expert,
CRAWLEY.

SECOND EDITION (7th thousand).

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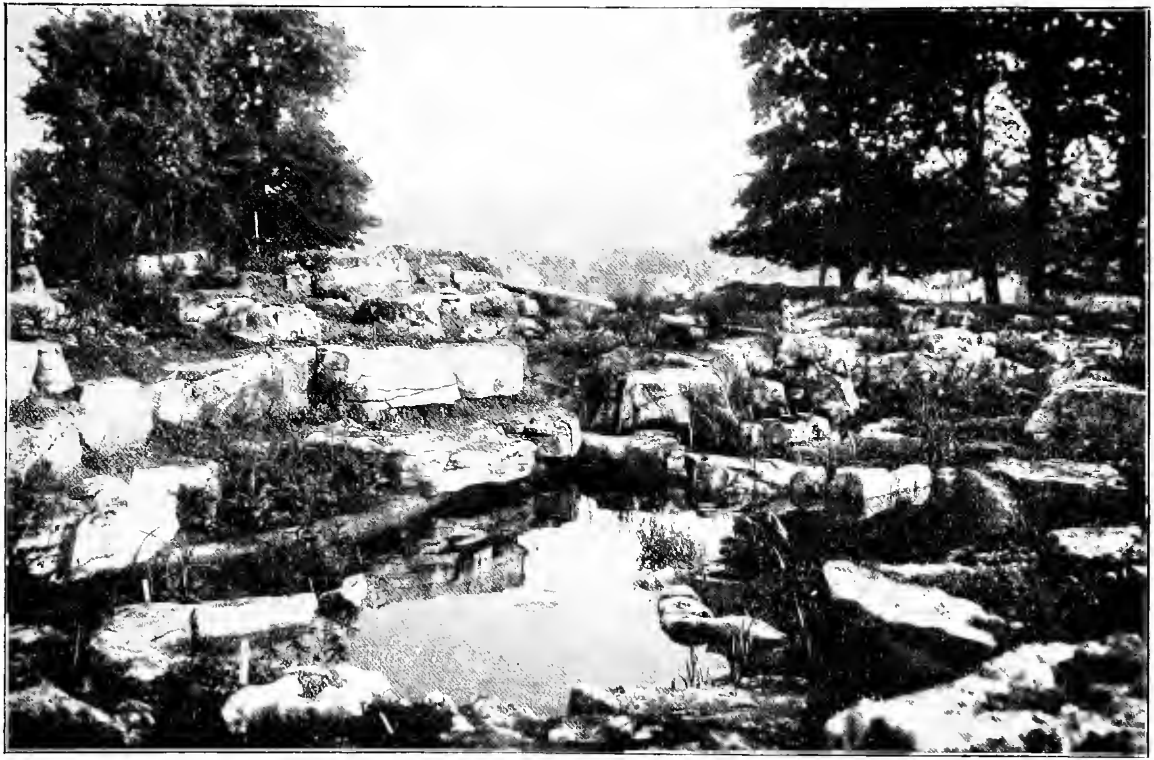

PORTION OF ROCK AND WATER GARDEN FORMED AND JUST PLANTED BY THE AUTHOR, FROM AN ENTIRELY LEVEL PIECE OF GROUND, FOR W. R. LYSAGHT, ESQ., J.P., "CASTLEFORD," CHEPSTOW, MON.

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PREFACE TO FIRST EDITION.

THE writing of this little volume has been undertaken in consequence of appeals made to the author by numerous gardening friends, as well as by members of various horticultural societies before whom he has from time to time been privileged to speak in different parts of the country on the deeply interesting subject of rock and alpine gardening.

In his professional capacity, having had charge of and cultivated some of the largest and most varied collections of alpine and rock plants in this country, both in private and nursery establishments, and made the subject of rockeries and rock and alpine plants his special study, he has in the following pages attempted, in as few and simple words as possible, to explain the many little, but none the less important, cultural details which require to be observed by anyone contemplating success in alpine and rock gardening. Success is, indeed, only to be achieved by attention to these little matters, which taken in the aggregate include all that is understood by skilful culture.

In the following pages the author has tried to avoid technical phraseology, with the desire that lovers of this increasingly popular and very fascinating section of gardening—and more especially young gardeners—may understand quite clearly and easily the information which it is intended to be conveyed.

In so small a book as this he does not pretend to have given anything like a full description or a complete list of the many plants suitable for rock gardening, nor has he attempted to lay down any hard and fast rules as to the formation of the rockery or rock garden, preferring rather to leave that in a very large measure to the individual tastes and requirements of the reader. He has merely offered advice and suggestions based on his own experience, and mentioned the principal cultural needs of the plants enumerated, which if intelligently followed cannot fail to ensure a very large measure of success.

If the object at which he has aimed be attained, then he will feel well recompensed for the labour involved in writing this little book, and much gratified by the knowledge that his humble efforts towards imparting a wider and keener interest in the growing of these beautiful little plants have not been in vain.

He would like to add that in the following pages has been incorporated the substance of the various lectures delivered by him during recent years ; therefore to any reader who may recognise certain portions he offers, if necessary, his apologies.

THE EDELWEISS AT HOME.
(See page 56).

PREFACE TO SECOND EDITION.

SINCE publication of the first edition of this work, rock and alpine gardening has gained a place in almost every garden. No doubt, to a large extent, judging from the many hundreds of appreciative letters received from clients and gardening friends, this little work has played a part in popularising this recreative and charming form of gardening. Owing to the former edition being exhausted in so short a time and feeling that there is room for several additions and improvements, the author has made such, adding chapters on water and bog gardening, etc., whilst the pronunciation of names of plants has also been included. Not wishing to make it a catalogue of names, the author has refrained from adding to the book, to a large degree in that direction, as anyone interested in the growing of these plants will find most or all that is required by obtaining the author's Hardy Plant Catalogue, which he will be pleased to forward, post free, upon application.

To all gardening friends who have expressed their unsolicited approval of the usefulness and help which the former edition has been to them, the author desires to express his thanks, and trusts that now he has placed the work at a price within the reach of all—and especially young gardeners—that it will attain the purpose which has induced him to send it out, namely, to create a further love for this form of gardening, which the author predicts is only in its infancy.

With these words he sends it on its way, trusting that it will prove instructive and interesting to all its readers.

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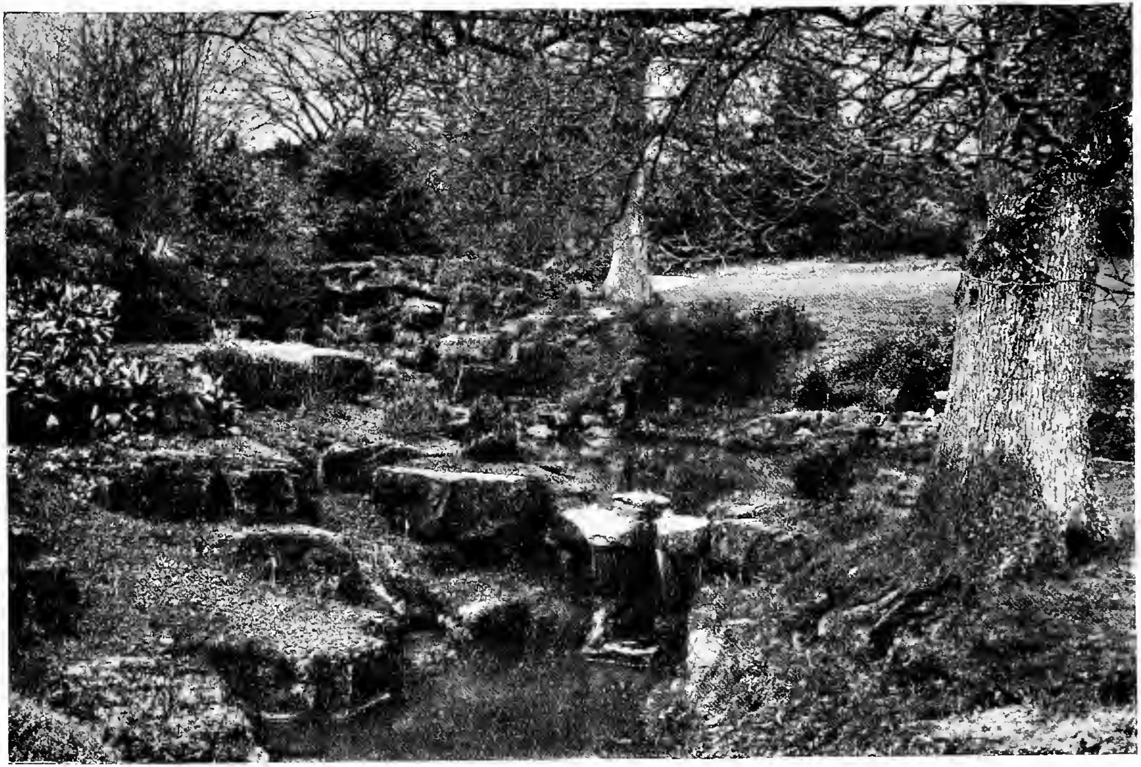
November, 1910.



CASCADES WITH ROCK-BUILT BRIDGE OVER STREAM.

INTRODUCTION.

OF late years grand progress has been made in the cultivation of alpine plants, and the formation of rockeries and alpine gardens. These little plants with their myriads of bright blooms of all shapes, sizes and colours, nestling here and there, in large or small masses as the case may be, how they seem to speak to us, and so captivate us at first sight! And so we begin by growing just one or two varieties of these sturdy and charming little subjects; and who but has a garden large enough in which he is able to grow a few? Then, once a commencement has been made, we find, somehow or other, that in a very short space of time we have got together quite a *recherché* collection. Such, more often than not, is the happy lot of those who once start rock and alpine gardening. And are they not amply repaid for any little trouble and expense which it may have cost them? For is it not

"By the breath of flowers
We are called from city throngs and cares,
Back to the woods, the birds, the mountain streams and flowers;
Back to free childhood's days
Fresh with the dews of tenderness"?

How refreshing and delightful is a rockery or an alpine garden built and formed on as natural lines as possible! What interest and pleasure it affords one to be able to throw aside anxieties and mundane worries, and wander among the rocky walks and dells, or traverse rugged steps bedecked on every hand with masses of blooms of these dwarf and sturdy little plants! No wonder they are so fascinating, and that we appreciate their usefulness, seeing that they very often transform into places of loveliness and joy what would otherwise be barren, stony wildernesses.

Then again, what other family of plants have we that will flower out in the open practically all the year round as these do? If given suitable situations, and as natural conditions as possible, they will stand the most severe weather, and by making a judicious selection, we may have some little gem to feast our eyes upon during nearly every month of the year.

I am not going to enter into details of planting just yet, but in passing should like to emphasise the importance of planting the plants firmly, and of taking care in so doing not to damage the roots. I know of no cause more disastrous to the well-being of alpine and rock plants than this neglect to plant firmly, and believe that this is the reason why so many perish or do only indifferently; therefore, I desire to draw special attention to this important item. Many amateurs, again, also kill or endanger certain kinds of these plants by lifting and putting them into frames or glass-houses with a view to giving them protection during the winter months. Either plan is bad, as it tends to promote unnatural growth, and makes them tender and susceptible to cold, and so liable to be cut down by frost, should they be put back into their original quarters in early spring. Even should they survive such treatment, they will never make such fine and bold masses as they would do if left out of doors and treated properly. An alpine plant is not, in my opinion, worthy of the name it bears if we have to resort to such methods as these to save or protect it in case of severe weather. We do not find alpines growing under such conditions in the Alps, on the Pyrenees or other mountains of Europe, Asia, or America, from whence most of them come. No; they are left alone, Nature providing for them in her own unimprovable way; they are not coddled by all manner of men's inventions, but are found in most instances firmly embedded among rocks, stones, grit, and other material brought together from the higher regions by storms innumerable and other agencies, and thus the roots are kept cool, and all necessary nutriment and other requisite conditions are provided by Nature in her own incomparable way.

If we were to examine the roots of most of the plants flourishing in the rocky uplands, we should find that they have not much soil in which to grow, but that they are so firmly embedded between the stones that they keep striking deeper and deeper, sometimes to the depth of several feet, which has, over and over again, been proved by removing the débris from them. One would think that plants with such remarkable root action would inevitably give a larger amount of surface growth, seeing that most of the plants under our consideration only grow two or three inches above the ground at the most. Of course, it is their nature not to be tall, otherwise in all probability they would not be so effective as they are. Climatic conditions account for this, the plants not being allowed a long growing period ; they have, in fact, only a few hours given them during the day for two or three months of the year in which to grow and bloom, and are, in most instances, frozen up every night all the year round. In the alpine meadows and valleys below, where it is much warmer and the sun has more power, we see fields of such plants as the taller growing Campanulas, Centaureas, Geraniums (proper), Polygonums, etc., so we can fully understand the reason why the plants are smaller, and more rare and choice from the higher altitudes. It will be seen then, that the roots penetrating such a distance down is one of the chief reasons why they are able to withstand the rays of a scorching sun or a drying wind : their roots are out of harm's way, being always kept moist ; and the drainage is so perfect, that there is not the least fear of them perishing through the accumulation of too much water. I have, as a matter of fact, seen colonies of them growing in streams of water, and upon digging down with a botanical trowel, have mostly found, on removing the smaller portion of soil on the surface, that they were completely wedged in between masses of small stones, and in some instances were resting on solid blocks of ice ; yet at the same time those at the sides of the stream were out in full bloom, and were delighting in such a cool retreat.

As I have already hinted, generally speaking all true alpines are of small structure, Nature having clothed them in a garment all her own, which enables them to withstand the many storms with which most of them have to contend ; and when we remember that a great variety of them are covered up with snow from eight to ten months of the year, and have only the remaining two or three months left in which they are free from their downy coverlet, and able to bloom and perform the duties

JUST UNDER THE SNOW-LINE. SOLDANELLAS, GENTIANA, BAVARICA, ETC.

ALPINES GROWING AMONG STONES AND GRIT BROUGHT DOWN FROM THE HIGHER GROUND.

which Nature expects of them, we can well understand the reason why they are so small and of such peculiar structure.

If we examine them in Switzerland, which we must acknowledge is the central home of most of our choicest alpine and rock plants, we find the foregoing conditions prevailing. Furthermore, as we have stated, they are mostly frozen up every night all the year round, yet they receive no injury; for Nature again steps in, and by her wonderful resources provides them each with a thick outer skin or covering, which thus enables them to withstand the rays of a powerful sun after the severe frost of the night: hence a further reason why they are small, and in most instances thickly set with foliage. It is owing to these circumstances that we find them growing and thriving in such high altitudes, where it is utterly impossible for trees and shrubs to exist. At this elevation it is that we get most of our choicest and rarest species—an elevation of from five to ten thousand feet above sea-level. In traversing these rocky regions we pass on every hand great masses of such plants as Androsaces, Erinus, Phyteumas, Saxifragas, Gentians, Primulas, Soldanellas, and others too numerous to mention, the majority of which we find in full beauty during the months of June and July, by which time they are mostly freed from the snowy mantle under which they have nestled so long.

Having dwelt for some little time on the nature of these plants and the conditions under which we find them growing in Switzerland's mountainous regions, I would like to say that if any one of my readers is not successful in cultivating rock and alpine plants, then there is some reason for it, as I do not know of any country possessing better or more genial atmospheric conditions for growing them than those to be found in the British Isles. I believe that, with a little care, judgment and foresight, we ought to be able to grow most of them to the best advantage and with the greatest of success, provided we have a rockery or rock garden, constructed on, as near as possible, natural lines, as it is only under such conditions that we see them at their best. One is always charmed by these fascinating little plants, which attract our attention and call forth words of admiration, especially as we come to the carpet and cushion families with their masses of bloom in endless variety of contrasting forms and colours, and we are provided with feasts of joy and pleasure when we notice, perhaps it may be just one or two of the rarer and more choice kinds peeping forth from some well-hidden crannies, crevices, fissures or chinks in the rocks, each being fully at home and delighting in the treatment given them.

It is impossible for us to look over a well-arranged and well-kept rockwork without finding some little gem to interest us, and no matter what the aspect of the rockwork, we have, thanks to Nature, such a large "family" of plants to choose from that we can, in a very short space of time, select suitable varieties for each particular position. This fact alone is very advantageous in gardening, and should appeal to us, as it is not every family of plants that will lend themselves to practically any position, whether it be wet, dry, cool, moist, shady, or in full sunshine. They can, too, be made to adapt themselves to any soil, however heavy or light it may be, by a proper admixture with it, according to the requirements of the plants, of stone chippings, mortar rubble, peat, leaf mould, loam, or sand, as the case may be.

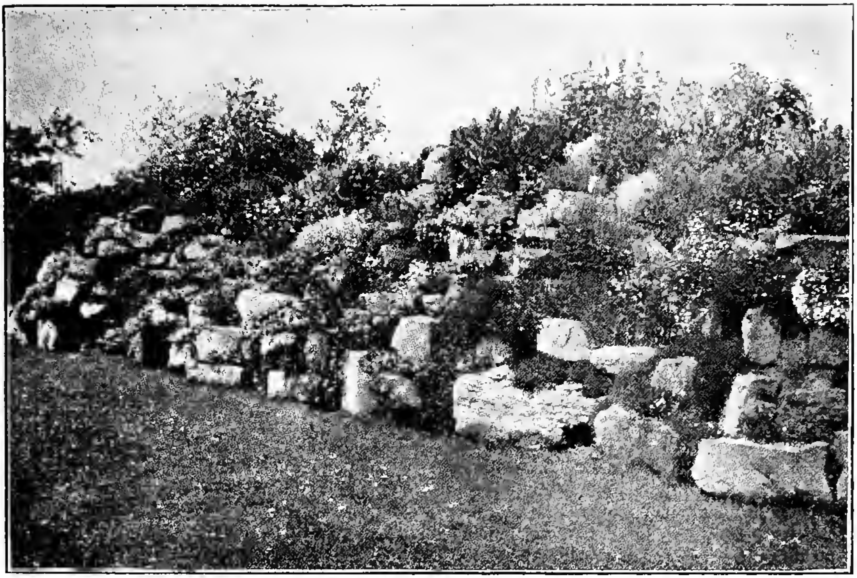
Before entering into the details of the building or formation of the rockery or rock garden, let me just say a word to those who may be contemplating this kind of work. I have found, in going from place to place in almost every part of the country during recent years, many examples of rockeries—so called for want of a more suitable name—which have been constructed apparently with the intention of growing rock and alpine plants, but I must say that in a great many instances the well-being of the plants could not have been considered, or these structures would have been arranged on quite a different plan. A rockery is not made by merely throwing up a "heap of soil," placing a few stones and rocks over and about it, and then calling it finished by inserting a few plants between the stones. Under such conditions as these one would not be able to avoid failure in so far as growing alpines is concerned, although one might be able to get the surface partly or wholly covered with some of the stronger growing plants, such as Arabis, Alyssum, Iberis, and other varieties which will make rapid growth in any ordinary garden border. It is by making a rockery on this wrong principle that the plants become shallow-rooted. The roots require to come into contact during their growth with the rocks and small stones, so as to induce them to penetrate and strike down into the cool and moist grit and soil in the same way that they do in their wild habitats. It will be seen, therefore, how important and essential it is to build the rockwork in such a manner as to prevent shallow rooting. We ought rather to encourage two or three long roots with plenty of fibrous roots, which would not be affected by the scorching sun, cutting winds, or dry weather, all of which are mostly detrimental to plant life.

Not only does the wrong method of constructing the rockery mean failure, but oftentimes this failure causes people to become prejudiced against rock and alpine gardening. They say that, having given them a trial and been unsuccessful, it is no use again trying to grow such plants, only to meet with disappointment in the end. As I have already stated, we must, in forming a rockery or rock garden, copy Nature as far as possible ; then we shall find that, instead of condemning this class of gardening, we shall have got something which will give us interest, pleasure and recreation, and an excellent return for all the labour and expense it may have cost us. Success will be followed by enthusiasm, and in time we shall get together a nice and varied collection, something to admire and be proud of, and to show our friends when paying us a visit. Doubtless, too, this will be the means of inducing those same friends to begin themselves the growing of these beautiful little plants, which have without the least shadow of a doubt, of late years, laid siege to our affections and captured a place—sometimes large, oftentimes small, but not the less interesting—in our gardens, as well as in our hearts.

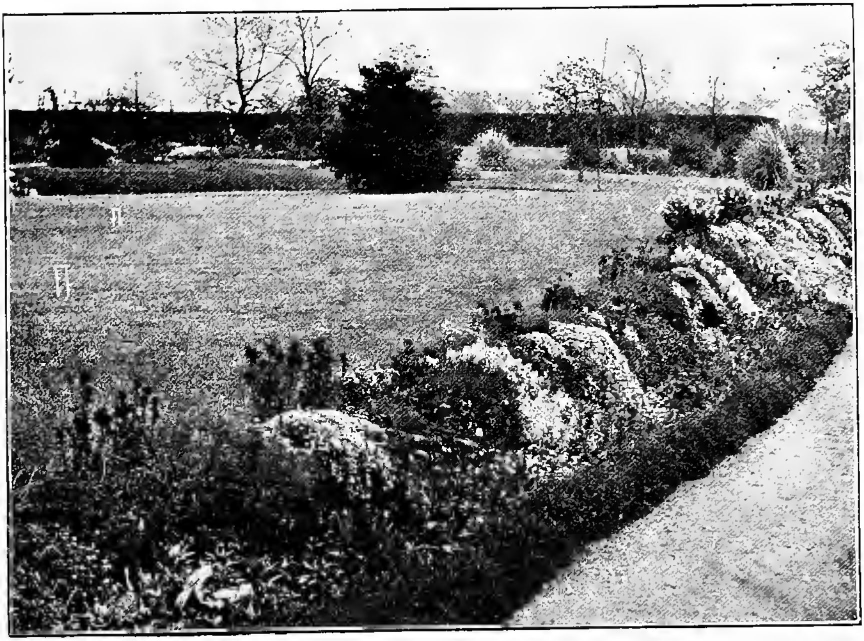
CHOOSING THE SITE.

In choosing a site for the rockery or rock garden it is impossible to lay down any hard and fast rules as to the position, for we have such a large variety of plants to make our selections from that we are able to utilise them to the best advantage for almost any position or aspect we can mention. But, without doubt, the most suitable position for the site is one fully exposed to the light and air. If possible it should be free from the shade and drip of trees, as only certain plants flourish when occupying these positions: a selection best suited for that purpose will be found towards the end of this book. An extra charm will also be added, if we can have the rockery or rock garden in a somewhat secluded spot, formed in such a manner that one would not be able to see it, until close upon it.

This always lends a most desired effect, and gives everyone who sees it a lasting impression. Some people prefer to have their structures built so as to represent a series of cliffs, ledges, and nooks, such as occur in Nature's handiwork, and which, if copied closely, cannot fail to produce a pleasing effect. But charming and most effective alpine gardens can be made which have not nearly so much rock or stone used in their formation, these being planned more nearly like what we find on the fertile alpine meadows, where only one or two rocks peep out here and there, giving shelter and all necessary conditions required by the plants growing around and about them. To work out this particular style we must have plenty of open space at our disposal, otherwise it would look small and puny, and not present a very good effect. If we can afford the space, we shall find that this is the most desirable manner in which to plant colonies of the many beautiful varieties of Ericas (hardy heaths), alpine Rhododendrons, etc., which would give splendid results when established. It must not be forgotten that what one person likes another may care less for; so, to a very large extent, the choice in the style of rockwork and the selection of the site must be left to individual taste. Apart from that, however, the nature of the ground at one's disposal should at all times be carefully considered, whether it is level or undulating, high or low, sheltered or exposed, while we must also weigh the question of soil. If it is light and sandy it will lend itself to the excavation plan, which is largely adopted, and of which I will speak further on. If we have to deal with a piece of ground in which natural drainage is faulty, or if the soil is stiff and heavy, then it will be much better not to excavate or lower the bed, but rather to supplement it with plenty of good soil and chippings. For terraces, tennis and croquet lawns, shelters from the north and north-east winds, nothing could be better than to build—not too perpendicularly—by a wall of sandstone or limestone, in place of the formal-looking brick walls and screens which are so often seen, and to have this planted with suitable rock and alpine plants. This would be in perfect harmony and keeping with its immediate surroundings, and at the same time would give added pleasure to the owner and his visitors alike. The first accompanying illustration shows a shelter of this description built of sandstone—by the author—and how it looked after being planted one year. The second illustration shows how beautiful a terrace or "slope" can be made to look, when treated in this manner—any old hard rubbish will answer for this purpose as it can be planted up with masses of Aubrietias, Alpine Phloxes, Alyssums, Iberis, Arabis, Helianthemums (Rock or Sun Roses), Sedums, Sempervivums, Saxifragas, Linarias, Polygonium vaccinifolium, etc., all of which will soon cover the stone and form a "carpet" of foliage, and will be rich in colour during the Spring, Summer and Autumn months. All that is necessary to do, is to make bold groups of each variety and blend the colours so as not to "clash" with each other. If this is done, then you will have something lasting that will give you pleasure and brighten up the immediate surroundings, different to what a "scorched" grass slope would be during hot, dry weather. Then again, very often steep grass slopes are not always satisfactory; besides being apt to get brown and scorched in hot weather, there is a lot of tedious and hard work attached to mowing, clipping and edging them, especially during very wet weather. By adopting the retaining wall principle most of this upkeep is done away with; the chief work will be to go over it two or three times during the growing season to

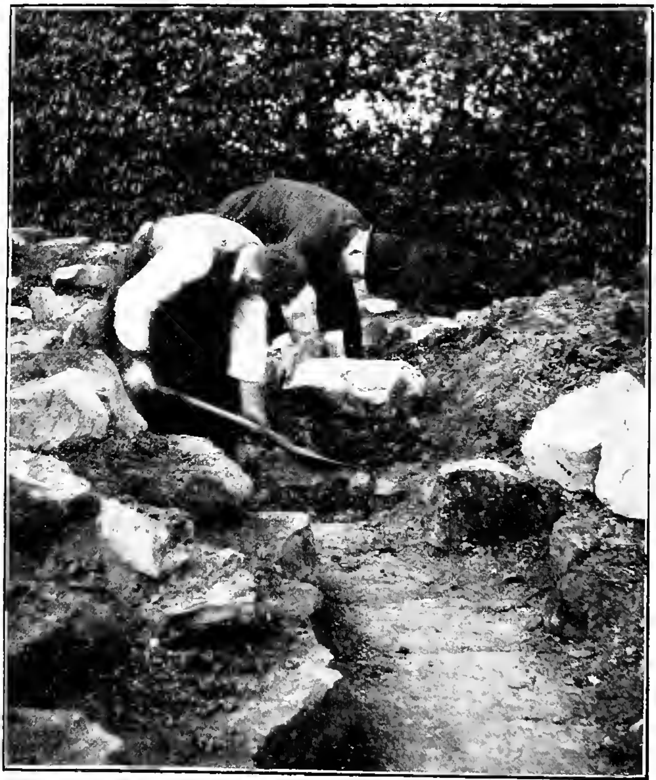


ROCK SHELTER FROM NORTH WINDS TO TENNIS COURT, ETC.



SHOWING HOW A "SLOPE" OR BANK OF TENNIS OR CROQUET COURTS CAN BE MADE BEAUTIFUL AND INTERESTING.

weed and take off any decaying blooms. In the Autumn or Winter months a top dressing of Clay's Fertiliser may be worked in with great advantage and where strong growth has taken place, some should be cut off, as this will keep them from overgrowing each other. The two foregoing illustrations will convey an idea of the effect which can be produced by adopting this style of rockwork.



THE AUTHOR FORMING "POCKETS" AND "BEDDING" STONES SO AS TO CONVEY WATER TO THE PLANTS. NOTE THE SMALL PIECES OF HARD RUBBISH MIXED WITH THE SOIL FOR DRAINAGE AND TO KEEP THE PLANTS COOL.

SELECTING THE MATERIAL FOR THE ROCKWORK.

Having decided upon our site, we must next select suitable material with which to build or form the rockwork. We should contrive, if possible, to obtain a stone that is not too hard, so that it will respond to the weather ; that is to say, one which will absorb and part with the moisture, and so help to keep the plants moist and cool during hot, drying weather. A hard stone would not be able to absorb the moisture, so naturally would be dry, and therefore not of much use in conveying water to the plants. Nothing in the culture of rock and alpine plants is more essential than that they should be kept moist and cool, for all who have travelled in Switzerland are fully aware that the air in and about the mountains is charged with moisture derived from the ever-melting snow. I need not add more on this point, as the importance will at once be recognised of obtaining a stone which will answer the forenamed requirements. If we are careful in this matter, then half the battle for the future welfare of the plants will have been won. There are several first-rate kinds of stone from which to select, such for instance as limestone, sandstone, tufa, etc. I think on the whole that sandstone is mostly used, as it is cheaper and can be more readily obtained in either large or small pieces, according to requirements ; where, however, there is any scarcity or difficulty in obtaining any of these materials one can with a little ingenuity contrive splendid substitutes by using old brick and mortar rubble, burrs and other hard rubbish, which if properly arranged and cemented together, and afterwards washed over with a mixture of cement and sand, will form large bold rocks so natural in appearance that one would have to carefully examine them before being able to detect that they were not quarried stone. One point to be noted in the building process—when this plan is adopted—is to arrange the " pockets " or places which are to receive the plants in such a manner that the plant roots can find access to the main body of soil and chippings, or root action will be interfered with.

By adopting this method of rock construction we shall be able to utilise many kinds of rubbish, which would not be of much use for any other purpose, and to form a structure which, as regards size and general effect, has nothing to rival it. For town work this material for forming the rockery is very suitable, or, as I have previously mentioned, in the case of any difficulty in obtaining a natural stone. If it is desired to grow plants which love limestone, the difficulty can generally be got over by adding chippings of the same, or mortar rubble ; if granite or sandstone enter into the rockwork, by breaking up some granite quartz or flint, or sandstone as the case may be, the different requirements of various plants may be thus met and suited. Advice respecting this will be found further on, in the pages devoted to hints on the cultivation of the rarer and choicer kinds of alpines.

In selecting sandstone it should be procured from a quarry which is known to produce stone that will not " fly " or crumble to pieces by the effects of weather upon it, as I have known instances where the work has all had to be done over again, and other stone obtained to replace it through this cause. A good sandstone generally gets harder by being exposed to the weather, but at the same time remains soft enough for the water to penetrate. It may be very soft when newly quarried ; in fact, I have known many persons who have doubted whether it would stand the effects of the frosty weather. They have felt inclined not to use it, but after I have assured them of the stability of the stone in question, it has always been used and given every satisfaction. I merely mention this to any of my readers who may be contemplating using stone of any kind, to insist upon getting a " guarantee " from the vendor to the effect that it will not " crumble " to pieces by being exposed to the weather. The question of stone may seem a small item to some people, but it is really one of the most important items in the whole programme, as by getting such a stone as I have mentioned, you court disaster, and if you get a very hard stone, it is generally unsuitable, as it does not encourage growth to take place owing to its inability to give or take the moisture.

HINTS ON BUILDING THE ROCKERY OR ROCK GARDEN.

Having dealt with the materials suitable for the rockery or rock garden, we will now consider the details of construction. Nature should be copied as closely as possible as regards the general outline, situation, drainage, and other minor but none the less important points. Before commencing to build, a plan should be marked out, no matter how rough it be, and then we should work it out from this. I find that this is one of the great helps to successful rock-building, for then one can see, as it were, what the finished work should be like even before it is started.

In commencing, begin by putting in a good drainage of stones and chippings, well mixed together with the soil, arranging the ground at disposal in such a way as to give the best possible effects. The soil may be excavated to represent here and there "defiles," and if the ground is naturally flat, using the soil thus removed to make higher elevations and cliffs standing boldly out, which will lend a rugged and charming effect, in conjunction with the low recesses or small "valleys" made by removing the soil. It is, to a very large extent, by these means that we are able to find suitable aspects for our various plants; but, whatever be the design followed, one must not forget to put in plenty of drainage, for it is better to have too much drainage than too little. This done, begin by laying the stones or rocks as far as possible on what is termed their "beds," generally the largest flat side of the stone. If it is necessary to adopt the plan of tilting them, or of putting them on their ends, arrange them, if possible, in such a manner that they may be planted with suitable plants that will soon mask them; but in either circumstance always lay them so that the water will run into the rockwork and so help to keep the plants moist and cool. Put a good layer of loam, chippings, etc., between and in the crevices, at the same time making provision for any special varieties or species of plants which may require particular treatment. In putting the compost in, take a stick and ram it until firm, so that there will be no fear of the structure giving way—through settling—in after days. In every instance place the rocks so as to give a variety of choice in the matter of situation, for plants requiring different aspects. Arrange to have " fissures " for the reception of such plants as Ramondia pyrenaica, Saxifraga longifolia and other chink-loving plants, which should be planted in almost a horizontal position, so that, during the winter months, the water will not be able to remain in the centres of their rosettes, and so be the means of destroying them.

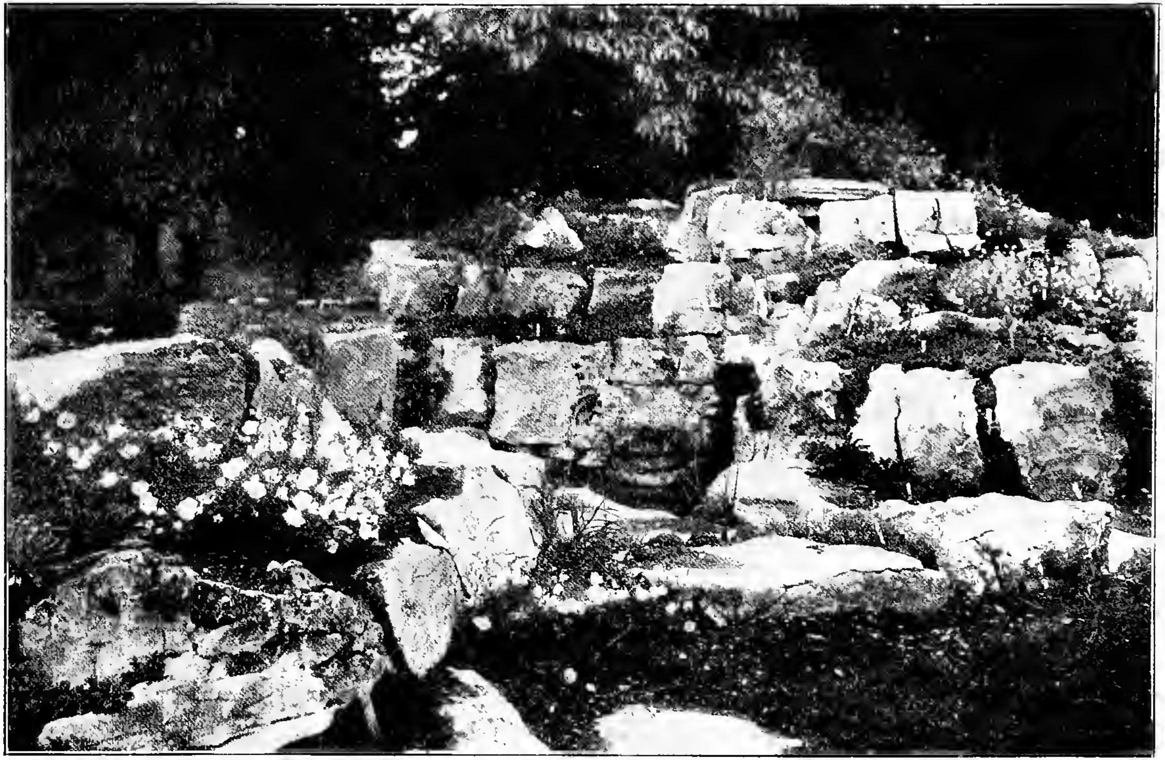
In forming fissures always make them funnel-shaped, that is to say, narrower at the bottom than at the top, so that in case of the soil subsiding it would keep close to the side of the rocks, and not leave any hollow places below.

Arrange in one or two prominent positions, bold projecting rocks, which have a very striking appearance, and are just the places for such as the " encrusted " family of Saxifragas, Silenes, and Sempervivums, all of which, if planted discriminately, need not be disturbed for ten or twelve years to come, as they will be found at home in such positions as these.

In forming " pockets," make them of various sizes, especially large enough to mass several plants of one kind together, as by so doing a grand display may soon be had, and one which will provide a more decided and charming effect.

All walks in and about a rock garden should be of an irregular outline, and if a few stones are placed here and there to walk upon, it will lend realism to the whole design ; if so desired, Sedums and other plants of a recumbent growth might be planted among the stones. If any rocky steps are introduced, dismiss all formality, as nothing is more out of character in a rock garden than when they look as if they had been chiselled by a mason. The more unshapely and time-worn they are in appearance the more natural they will look ; this also applies to " stepping-stones," which, when surrounded with dwarf and slow-growing subjects, are always more or less interesting, and produce a charm at first sight.

In planting arrange the smaller growing plants so as to occupy, as much as possible, the low recesses, planting the largest percentage of the stronger and larger growing varieties on the highest parts of the rock. By adopting this method the rock-



PORTION OF ROCKWORK AND WATERFALL, ETC., RECENTLY FORMED IN A SHADY CORNER.

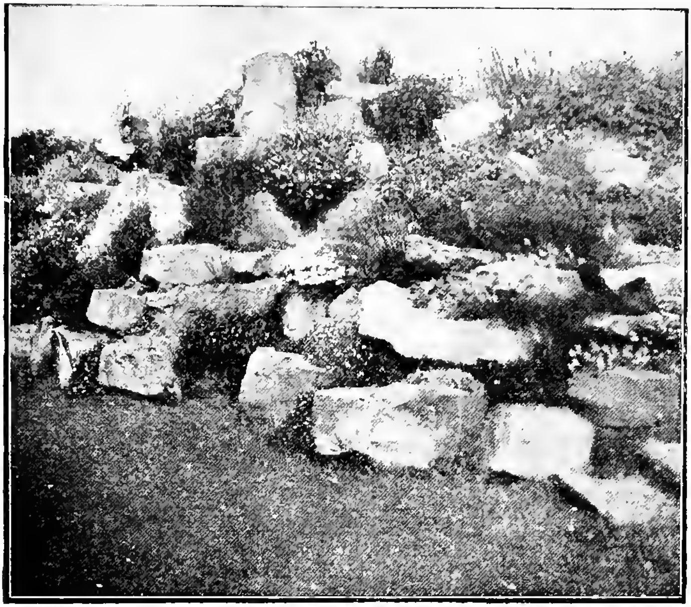
work will appear to be of larger dimensions than it really is; and besides there is no use in going to the trouble of making the structure to contain low ledges and recesses if they are deliberately planted and filled up with large growing subjects. Distribute and blend the colours so that they will not clash one with the other when in bloom. For instance, blue flowers seldom look well next to red ones, these should be well intermixed with white and yellow blooms. Great care should be taken to avoid putting all early flowering species together, unless one wants to have one part of the rockery or rock garden in full bloom at a given time and another part of it to flower later on. If this is not desired then they should be arranged so that they will be well mixed with those that bloom later on. In this way there would be a succession of plants, more or less, in bloom during most months of the year from one end of the rockwork to the other. Those which are evergreen, and most of which form "carpets" and "cushions" should be distributed amongst those that are deciduous, so as to give a winter clothing to the whole structure. A few of the dwarf growing coniferæ and shrubs are most valuable for this purpose, and some of these, besides being evergreen, bloom very profusely, whilst others, such as the Cotoneasters, are indispensable for planting on projecting rocks, over which their growths would hang and follow close to the face thereof.

During late years, there has been a large demand for plants having grey or silvery foliage, some grouping as many as possible of these together in a particular corner, and giving it the name of the "grey garden"; others, again, prefer mixing them with their general collection of rock and alpine plants. For my own part I like the last-named method the best, as these plants mostly show up to better advantage those having a much darker foliage. To a large extent it must be left to the personal taste of the builder of the rockwork, whether he plants it as he proceeds to build. I prefer to finish building, if possible, before commencing to plant, as I can always distribute and blend the plants to much better advantage over the whole structure and so give it a more finished appearance, yet at the same time leave enough room for any new or fresh introductions. After planting always give a thorough watering, repeating the operation two or three times in succession, after which they will require no more beyond a slight sprinkling to keep them moist and cool, until new growth has commenced.

A WORD ON WALL GARDENING.

An important feature which has come to the fore of late is wall gardening, for which purpose rock and alpine plants are so admirably adapted. This particular branch of gardening is finding a place in almost every well-kept establishment in all parts of the country. If a judicious selection of plants is made, and there is a properly constructed wall to receive them, I know of no other way by which better results could be obtained in return for so little trouble and outlay. The walls should be built so as to allow of plenty of room for the roots of the plants to expand and grow. A sandstone wall, built with stiff retaining soil and mortar rubble, suits the plants best; but if it is intended to make a more elaborate and substantial structure, then I would advise using lime with a fairly large amount of sand added, and nice-sized joints and crevices, filled with the forenamed soil, would need to be provided for the reception of the plants. Brick walls are sometimes utilised for the purpose, but a certain amount of skill is necessary in the building of them, and in forming the holes, etc., in which to grow the plants. The large majority of plants suitable for growing in walls prefer a sunny position, and this being the case, preference would be given to one facing south. The rougher the wall is built, the more quaint and natural it will appear when finished, and the plants will be decidedly more effective when they are in bloom.

If it is not desired to obtain many plants at the outset and one wishes to confine oneself to plants of a rapid growth, and if, furthermore, having the walls in a nearly unfurnished condition for a season after they have been erected is not an objection, then I would advise sowing seeds in the crevices of plants such as Aubrietias, Arabis, Linarias, Alyssums, Cheiranthus, Cerastiums, etc., which would be found to grow luxuriantly and establish themselves without much trouble. At the same time I would recommend plants of the encrusted varieties of Saxifragas, Dianthus, especially D. cæsius (The Cheddar Pink), Sempervivums, alpine Phloxes, etc., be obtained, and the walls furnished with these in variety. The best time for planting the walls is undoubtedly during the autumn or early in winter, as at these seasons of the year the air is more congenial and the atmosphere moister, which would enable them to take roothold straight away, and become quickly established, so that, in most cases, they would be in full bloom during the ensuing spring and summer months. By planting in the early part of the year it would be found, unless they were kept fairly moist by frequently syringing or spraying with water, that not nearly such good results would be obtained as by planting three or four months earlier. In planting, make the plants secure, and fairly firm, taking care not to "twist and cramp" the roots into all kinds of contorted shapes more than can be avoided. When the cavity is nearly full with soil to the collar of the plant, a very good plan is to fill the remaining portion with damp Sphagnum moss. Do not press this "too firm," otherwise it may cause the plant to decay. If it is put in moderately firm it will keep the soil from falling out and also keep the plant moist and cool until growth takes place, after which the roots will enter the crevices of the wall and so take care of themselves. A more comprehensive list of plants mostly suitable for wall gardening will be found on page 77.



RUGGED WALL FORMED WITH SANDSTONE.

ARABIS ALPINA FLORE PLENA. VERY DESIRABLE PLANT FOR COVERING ROCKS, BANKS, ETC., QUICKLY.

SOME ADVICE ON THE PLANTING OF ROCKERIES AND ROCK GARDENS.

In my business capacity I am oftentimes asked by my numerous clients, which is the best time of the year for the general planting of a rockery. There is not the least occasion to lay down any hard and fast rules as to the time of year it should be done. In this we must be guided somewhat by the climatic conditions prevailing, but probably any time between the months of October and March would be best. Yet, on the other hand, now that the majority of rock and alpine plants can be procured well established in pots from nurserymen who make a speciality of growing their collections by this method, it does not matter but little when one plants. I think we would very often save a season by planting any time through the summer and autumn months, providing care is taken in so doing, and not to plant during extreme hot weather. One thing which I would strongly urge is, as far as possible, to obtain nice, healthy, pot-grown plants, as they seldom fail, and rarely feel the effects of being moved the same as plants lifted from the open ground. Naturally, most alpine plants are small, and as I have stated previously, have very " minute " fibres. This being the case, when they are " lifted " from the open ground the greater portion of the soil is disturbed and these small roots and fibres damaged—more or less destroyed—so that they do not stand a chance against pot-grown plants, as most of the soil remains intact when taken out of the pot and planted. If any of my readers wish to satisfy themselves upon this question, let them experiment by growing and planting a few each of Aubrietias—one of the easiest of rock plants to grow—and the lesson taught will not have been taught in vain.

The main thing would be to prevent their lacking for water until they had got well established ; in a hot dry season it would be necessary to give a copious supply once or twice a week if required. Another important item which I must mention is that, in making the holes for planting, sufficient soil must be removed to comfortably allow the roots of the plants to be inserted without their being curled and twisted up in all manner of shapes one on top of the other, the same as I mentioned in the notes on wall gardening. I do not know of anything so detrimental to plant growing as this, and it is chiefly through this, as I have before stated, and not planting firmly enough, that so many rock and alpine plants perish. Again I would emphasise the importance of putting plenty of small stones and chippings in the soil and on the surface, placing these around the plants in such a way as to absolutely compel the roots to strike deeper and deeper down out of all danger from extremes of weather.

A judicious selection of dwarf growing bulbous plants will be found of great value when planted discriminately in and about the rockery. Not only are they rich in colour, but many of them would be in bloom during the winter and early spring months, hence their extra value. A list of some of the best kinds is given in the selections further on.

In close proximity to our rockery we usually or often have a shady walk or two, or some little retiring nook, which would be greatly improved by the addition of plants. For situations like these where little or no sunshine gains admittance, shade-loving subjects like those seen in the accompanying illustration must be chosen, such, for instance, as Ferns, Trilliums, Cypripediums, Anemones, Epimediums, Cyclamens, Asperulas, Omphalodes, Primulas, and Hepaticas. In most cases overhanging trees are the cause of the shade, so that very often the site would be very draughty. If this is so a selection of plants from the above list should be made, adding a few varieties of Sempervivums and of the Umbrosa type of Saxifragas, as well as the large rockfoil Megasea cordifolia purpurea. Further fine additions would be Hypericums (commonly known as the Rose of Sharon, or St. John's Wort), Lysimachia nummularia (Creeping Jenny), and Sedum spurium. Most of these will stand cutting winds and thrive where most of the other plants would perish.

Plants which require a cool, spongy, or moist soil—as do many of the shade-loving plants—can be fairly well satisfied where these conditions do not naturally exist by adding a nice quantity of Sphagnum moss and peat when planting, and in so doing pressing the whole moderately tight, but not too much towards the collar or "neck" of the plant. Many perfect gems will be found in this section, such as the Ramondias, Linnæa borealis, and others mentioned in the first list, as being suitable for shady nooks.

A very good way of determining whether a plant requires shade or not is by noticing the colour of its foliage; thus, for instance, if it be of a lively dark green colour it would require a shady position. The Ramondiæ are good examples. It is well to notice, however, that those which have an additional covering of white downy or woolly foliage after the form of Gnaphalium leontopodium (Edelweiss) prefer to be planted in full sun, as Nature has provided them with the necessary "outfit" to enable them to withstand and repel the rays of a powerful sun. To assist in keeping the ground cool and free from cracking during the hot summer months it should be covered with a quantity of broken limestone or sandstone, and this material should also be drawn about the plants; it will absorb and conserve the moisture and convey it to the plants when required.

During the latter months of the year a top-dressing of soil, small clippings of limestone or sandstone, well incorporated with a sprinkling of Clay's Fertiliser, should be given, care being taken not to damage the centres and the small evergreen growths of the plants in so doing. On no account use stable or farm-yard manure in the mixture, as this is not at all necessary for the plants; indeed, it tends to induce a rampant and false habit, and in many cases deprives them of their true alpine character and often encourages injurious Fungoid growths, which are apt to encourage and harbour numerous insect pests. In the opening pages of this book I drew attention to the fact that the rarest and choicest of the alpines, especially those found growing in high latitudes, in their native homes or habitats, thrive and flourish with scarcely any soil, but yet derive from these apparently unfavourable conditions all the nutriment required, and produce a wealth of lovely flowers of almost every conceivable shape and colour. This is Nature's way of producing such wonderful results, and if we would have alpine plants growing as they should do, then we must copy as nearly as possible her peculiar methods. Therefore it will be seen that the use of strong farm-yard manure in the cultivation of these plants is contrary to Nature, hence it is that the plants should be top-dressed with a suitable gritty mixture, as advocated, once a year, to allow nourishment for the ensuing season, and so keep the plants in the best of condition.

THE QUESTION OF LABELS.

A matter which gives rise to a good deal of controversy, and is the cause of much annoyance to many lovers of alpine gardening, is that of labelling, many contending that the labels detract from the natural beauty of the plants and introduce an obtrusive artificial element. Whether this be so or not must be decided by the individual grower ; but the label is unquestionably useful and educational in making us conversant with the plants we are growing. Nothing adds to the pleasure of rock and alpine gardening like an intimate acquaintance with the little subjects we are rearing ; if we do not know their names half the joy of possession is gone, as well as a good deal of its value. At first, therefore, at any rate, labels may be considered advisable. It must not be forgotten, moreover, that during the winter months the foliage of many of these plants dies down and they show no surface signs of life, and some way of locating the position of each is necessary, or they may get damaged or destroyed.

If labels are adopted, I would recommend the small " Acme," which are made of metal and are manufactured by the well-known firm of Messrs. John Pinches, London. On these the name of the particular plant is embossed, thus the metal letters in relief are discernable at first sight. Not only that : they are practically indestructible and present a very neat appearance, and are not subject of being blown out of the ground by the wind, the same as wood labels are. Then again, as they never decay, they are not apt to get broken off the same as wood ones do. Although a little more expensive, they are well worth the extra cost, as they soon repay same ; being permanent, they save money and labour in various ways, which every gardener, whether he be amateur or professional, is well aware of.

INSECT AND OTHER PESTS.

In rock and alpine gardening we have to do battle with several insect and other pests. The worst enemies to our plants will be the snails and slugs, and some districts seem to be more plentifully supplied with them than others, though I think they are much like weeds, inasmuch as wherever we go we find them. In early spring more especially, when vegetation is very scarce, they will be found particularly troublesome, and must be continually searched for, or our early growths will quickly disappear. Such plants as the Campanulas, Dianthus, Ononis and Aster alpinus are specially liable to attack, and we should be on the look-out to circumvent their enemies.

In the early morning, and late at night, and after a genial shower, are the best times to catch these intruders at work, and we should then, if possible, pay them a surprise visit, taking with us a can containing some quicklime or common garden salt, into which we can drop them. If we have to take means to protect any of our very choice varieties of plants, I know of nothing better than a zinc collar put around the plants and gently pressed into the ground an inch or so, leaving two or three inches above the surface of the ground.

Then we have the weeds to contend with, and many a good rockwork is completely spoiled through being overrun with weeds, for not only do they take a vast amount of nourishment out of the soil, thus depriving the plants of food, but oftentimes they completely choke and kill the smaller growing, choicer and rarer plants. Hence my reason for calling attention to this matter, though really it should scarcely require mentioning, for we all know the saying that " weeds grow whether anything else does or not." Yet I find a great many owners of gardens who do not seem to trouble in the least, or very little, how many weeds they let grow, and instead of uprooting them as soon as they appear they leave them until they have a general tidy up of the rockwork in the autumn or spring, as the case may be. This is one of the worst conditions that can be allowed to exist. As soon as a weed is seen it should be pulled up or, if it is of a perennial growth, taken up with trowel or small fork.

Not only do we give our garden or rockery a cleaner and better appearance in every respect, but we also assist Nature to do her work, by loosening the surface of the soil and so helping to keep it from cracking, etc.

Much more might be said here as to the why and the wherefore of doing this, that and the other thing, but space will not permit, as this little volume is only intended to give the really necessary information for the successful formation and planting of a rockery or alpine garden.

Before giving a few hints on the growing of most of the plants mentioned in these pages, let me impress upon the reader the importance of making himself well acquainted with the requirements of each plant grown. If this be done, then success will certainly follow.

A HOME OF ALPINES, WITH MOUNTAIN STREAM, NEAR ENGELBERG, SWITZERLAND.

WATER GARDENING.

Lakes, Streams, Ponds and their Margins.

In conjunction with alpine gardening, water-gardening is often taken up, and splendid results may be achieved whether it be with shallow streams, small ponds or lakes, artificial or otherwise. Whichever we have at command, there are plants in variety adapted for any position which will thrive well and flower abundantly. If it be a large or a small sheet of water, deep or shallow, a stream, pond or lake, we can soon beautify and alter its appearance by introducing some suitable aquatic plants, growing them in the deepest part of the water, and other moisture loving plants, on the banks and margins. What a pleasing contrast to the immediate surroundings is a well-arranged collection of Nymphæas (Water Lilies) and other plants, some in full bloom, virgin white, rosy pink, or flaming red, resting lightly on the limpid surface as though dropped there by some fairy hand, or grouped in nestling families along the shallows and on the banks, lending a charm to the scene peculiarly their own. Among the plants of small stature will be those of a stately and magnificent foliage, which will greatly enhance the attractiveness of the whole design.

As I write I recall to memory many of these cool and picturesque retreats, which were once barren—and in several instances humid and stagnant with foul water thereon, places where one did not care to venture, in case of suddenly sinking two or three feet, or more, into these wretched mud traps. These have been taken in hand, pools, streams and places formed for growing moisture-loving plants, and the result is that they are no longer places of annoyance and danger to the owner thereof and his visitors. They have been transformed into beautiful and natural "water-scape" scenes. Man has copied Nature and by his skill has introduced plants, trees, reeds, etc., each of which are adapted for the position given. By cutting channels, and in some instances using drain pipes, the water which has probably for generations been allowed to remain in these "humid places" is collected together, and a small pool, or a series of pools is formed, which are connected by winding courses of water. In places where the situation lends, one has to go by the natural lay of the land to a very large extent when dealing with water. Pools two to three feet may be formed wherein to grow the large and exquisite Water Lilies—some with their marbled foliage, others with their cool-looking and stately green leaves laying serenely upon the water. Oftentimes, however, the foliage of many of the stronger growing kinds, after having been left undisturbed for several years, will rise above the water considerably. This is owing to them having got overcrowded, hence the roots should be divided and thinned, every two years generally being sufficient to correct and stop this from taking place. It is well worth going to a little extra trouble by doing it, otherwise a large percentage of the blooms are never seen. The month of March is a very good time to take pieces which would produce foliage off the roots, as they are just about this time of the year beginning to make and develop their buds, and the same will, if properly taken off, readily establish themselves and make strong, healthy plants for other situations if required.

Nymphæa Marliacea Chromatella, one of the best hardiest yellows, is very subject to soon making strong growths, as mentioned; but for large sheets of water, from two to four feet deep, we cannot afford to do without it; whilst if we require other good kinds, of different colours, perhaps the best in the many kinds are Nymphæa Marliacea albida (white) and N. M. rosea (pink). Then we have the various crosses from the Marliacea and other varieties. These include N. Robinsoni (orange red), N. Gloriosa (rich carmine rose), N. W. B. Shaw (bright rosy pink), N. Wm. Doogue (soft shell pink), N. Gladstoniana (white), and N. Wm. Falconer, the darkest-coloured of all hardy Water Lilies, it being of a rich, bright, ruby colour; unfortunately it does not flower freely, but for its colour I have given it a place. We also have other large growing, handsome varieties which we must include along with the foregoing. I speak of Nymphæa odorata alba (white), and N. O. rosea (rose pink); Nymphæa fulva (yellow), and N. alba candidissima (white). Anyone of these are good and embrace the best of the large growing hardy kinds. For shallow water, whether pools, tanks, basins, or tubs, the most suitable are to be found in the following kinds:

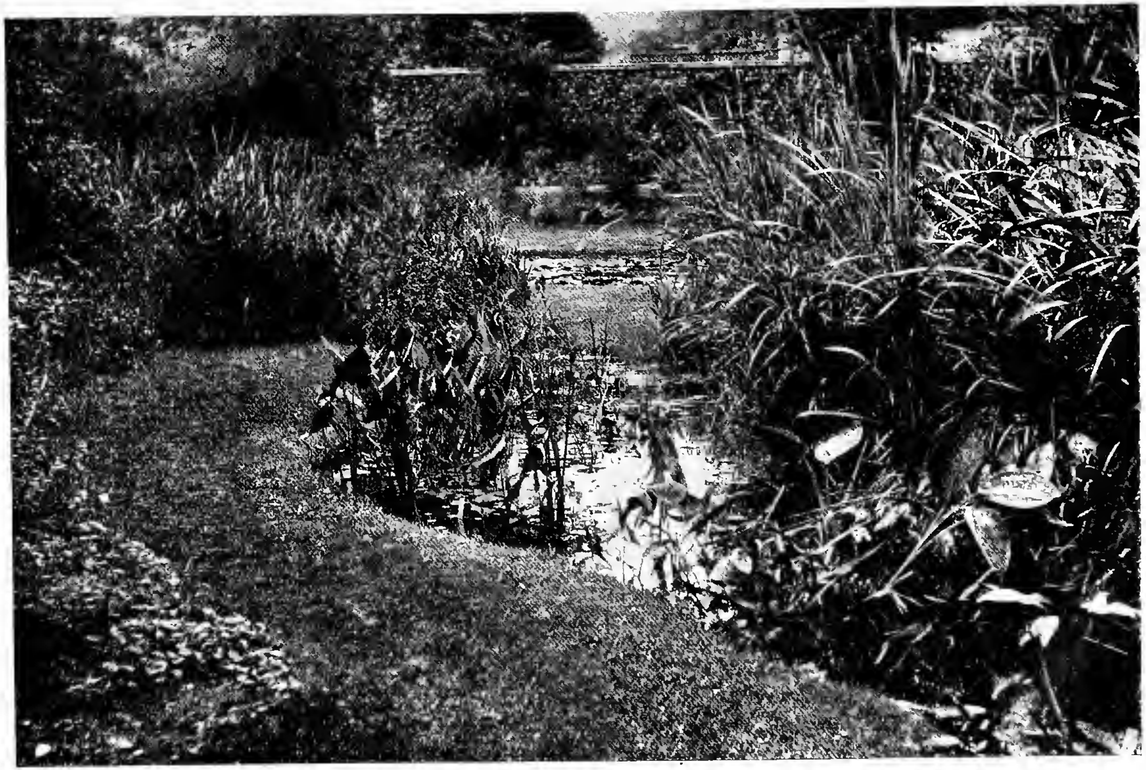
Nymphæa Laydekeri rosea (soft rose pink), N. pygmæa (white), and N. P. Helvola (yellow), N. Seignoureti (yellow, shaded carmine and pink), Nymphæa odorata minor (white). From such a wealth of varieties as these one gets practically most of the kinds worth growing, although there may be one or two more, which I have not included owing to them not being so easily obtained, such as N. odorata exquisita, a beautiful deep rose carmine in colour. I have not mentioned such an old favourite as our English Water Lily, Nymphæa alba, which for very large pieces of water we cannot well do without; but unless plenty of room is at disposal, it being of very quick growth, I would rather it not be planted, so as to make room for some of the more choicer kinds. Then again, I maintain if N. Marliacea rosea is planted, there is no occasion to have N. M. carnea; although there is a difference, the two are very similar.

VIEW OF WATER, OLD BRIDGE AND BOATHOUSE, FORMED WHERE CLAY WAS DUG TO MAKE BALLAST FOR ROADS AND CARRIAGE DRIVE.

The best time for planting Nymphæas is, without doubt, in early spring, from the month of March to the beginning of June, as plants put in then mostly start into growth immediately and continue to do so without the severe frosts affecting them. If planted later, unless pot or tub grown plants are obtained, and then carefully handled, the buds and foliage become damaged, and besides, oftentimes through being moved right in the middle of their growing season, they succumb to this unnatural treatment. If planted during the winter months they do not get established, which causes them to perish during the severe weather which we usually get at this season of the year. If the piece of water has a " natural " bed, so that there is no necessity to introduce a quantity of good stiff loam, etc., for planting in, then I merely make the Nymphæa—or other aquatic plant requiring deep water—secure, either by putting it into an old basket, or doing it up in " turves " and soil, tying the same in the first instance by means of strong tarred twine, afterwards putting a piece or two of wire around, which should be weighted at the bottom. This done, merely drop the plants to your desired position and the operation is complete. If the plant is in good condition, very rarely will there be any lost by these methods of planting, providing you do your planting during the months herein named. For smaller and more shallow water the foregoing remark applies, the only difference being that in tanks, tubs, small cement pools, etc., they must be kept in large pots and baskets and the water changed occasionally so that it will not become stagnant and cause various insect pests to be of trouble, which are a great nuisance to get off the leaves. Should they ever appear in these small reservoirs, the water must be emptied at once, and the stems and foliage of the plants thoroughly cleaned. Very rarely do the plants suffer to any extent in the larger pools ; but if during very hot weather they are attacked with the " black aphide," the hose pipe should be got to work, which, with a good pressure of water and repeating the operation daily for several days, these tenacious enemies may soon be eradicated. If any fungous disease appears, which mostly cause the leaves to have spots and the edges to shrivel and turn up, a very weak solution of Bordeaux mixture, sprayed on the leaves every other day—between three and four o'clock in the afternoon, is the best time to do it—the disease will soon be got rid of. Any of the diseased leaves may be picked off when first seen, with very good results, as it soon spreads, hence they should be at once destroyed.

In conjunction with Water Lilies, we ought to include a few plants of the fragrantly sweet-" flowering hawthorn," as it is more often called than by its Latin name—Aponogeton distachyn. It produces white flowers, which float on the water in pairs. It always does best in fairly deep water and especially where the water does not get frozen over. The Sweet Flags—Acorus Calamus and A. Calamus variegatus—are two very useful plants, growing about a foot high. Then we have the rich golden Marsh Marigolds—Caltha palustris—both in its single and double forms, and also that grand improvement—Caltha polypetala—which yields multitudes of large golden yellow " King Cups." These are grand subjects for shallow water and for moist places. Calla palustris is quaintly pretty with its spathe of gold peeping out of its sheath of greenish white as it unfolds. Hydrocharis Morsus-ranæ is a very graceful miniature aquatic, bearing three-petalled white flowers, the foliage being kidney shaped. The old " Native " yellow Nuphar may be used with good effect on very large spaces, whilst the Water Violet—Hottonia palustris—with its beautiful serrated foliage and pale blue flowers, is interesting.

The Typha family—namely, T. angustifolia, T. latifolia, and T. minima—are grand for giving a stately appearance to any large sheet of water. The two former named require plenty of room ; given same, they soon show off their long, broad, green, sword-like foliage to perfection, whilst towards the end of the autumn their spathes of velvet furnish them with a kingly appearance. T. minima is more rare, and only grows about one foot in height. For a very wet, boggy place or shallow stream we ever find the Bog Bean—Menyanthes trifoliata—useful, although rather gross and rampant in growth ; if not allowed to get too thick its bean-shaped leaves and rosy white flowers are always interesting. If planted in shallow water, or at the edge of a pond, The American Golden Club—Orontium aquaticum—with its narrow golden yellow spadix, growing some fifteen inches high, is a very desirable plant.



GRASSY WALK BY THE MARGIN OF WATER, WITH PONTEDERIAS, SAGITTARIA, THALIAS, CYPERUS, ETC.

Then we have the Water Arum—Peltandra Virginica—with its long arrow-like foliage and greenish white spadix. Ever useful is Pontederia cordata, attaining the height of two feet and producing spikes of blue flowers. Ranunculus aquatilis studs the surface of streams and ponds with myriads of white flowers with yellow stamens. Ranunculus lingua grandiflora differs, inasmuch as it does not spread on the surface the same at R. aquatilis, but grows to the height of two feet and produces golden yellow flowers. This plant does equally as well in water or in a very damp place. The Arrow Heads—Sagittarias—with their broad sagittate leaves and white flowers, are soon delighting themselves in dancing over the water. Stratiotes aloides delights to root in the bottom of a pond from whence it throws up its white flowers on the ends of stalks some six inches in length. The Scripus, or Juncus—as some prefer to call them—are grand ornamental rushes growing three or four feet out of shallow water. S. lacustris zebrina has beautifully variegated leaves. Villarsia nymphæoides is a quick covering little water plant with yellow flowers in great abundance.

For the sides of the water, where we have room at disposal, charming effects will be produced by planting discriminately many of the plants which I have just mentioned and allowing them to run into the water ; but there are others such as the many glorious Japanese Iris—Iris Kæmpferi, I. aurea, I. Monniere, I. pseud—acorus, and its variegated form, are more than useful. All the Day Lilies—Hemerocallis flava, fulva, Kwanso, Citrina, Dr. Regel, etc., are plants to do well in moist positions. The Astilbe and Spiræa families are always at home by the water's edge—providing the soil is deep—and what looks better than a well-grown plant of Spiræa Aruncus, with its graceful white plumes towering up from three to five feet out of a wealth of beautifully cut and divided foliage. Two other stately plants we find in Gunnera manicata and G. scabra ; here in Sussex the leaves of the former I have seen some eight to ten feet in height, whilst those of scabra measure four feet. The flowers are insignificant, but the noble foliage is grand to behold when well grown. In some parts of England the crowns require to be protected during winter months. This is best done by putting a quantity of leaves or straw over them and fastening up with old canvas or other suitable material, gradually taking the whole away from them during early spring. Most of the hardy Lobelias and Mimulus do well by the water's edge, as also do all the Trollius—Globe flowers, Saxifraga peltata, Rodgersias and the Rheum family—all prefer a fairly moist position and produce noble foliage.

Primula rosea, P. japonica, P. sikkimensis, and P. denticulata are never more at home than when delighting in a half-shady moist position. The Water Forget-me-Not—Myosotis palustris semperflorens—with its blue flowers, is scarcely ever out of bloom. The Osmundas also lend themselves to this class of gardening, as also do most of the Polygonums and Lysimachias. Gentiana pneumonanthe, G. asclepiadea, and G. lutea prefer moisture. Bamboos always do well and look extremely stately when grouped with some smaller subjects. The Arundo's also are especially fitted to occupy a position by the sides of a large lake or pond. A. donax—The Giant Reed—oftentimes attains the height of twelve to fifteen feet in such a position as this, whilst A. donax variegata only reaches some four feet. A. phragmites and its variegated form ought always to find a place in every well-appointed water garden. Many others are the choice and useful plants that delight under these cool, moist and wet conditions, for which see selections, pages 79, 82.

These are only a few of the principal groups and plants which must, if grown under proper conditions, be of service to the would-be water-gardener. The most essential thing in bog gardening is to see that the plants are provided with good drainage. This, as I stated at the commencement of this chapter on water gardening, is done by excavation, cutting various channels, utilising a few pipes, and, if necessary, by filling in peat in certain parts of the intended bog. Stepping stones may be introduced with very good results to allow a more sure footing in all soft parts. If any trees are required around or about the water, such families as the Rhododendrons, Cornus, especially Siberica and Spathii aurea, Virburnum opulus, Silver Birch, Salix, Poplars, and various Coniferæ, such as the many Abies delight in such a position as this. In these we will find foliage of various colours, very graceful in appearance, the reflection in the water of which would lend a charm to the whole surrounding. Of course, if the site is fairly open, then more of the ordinary flowering trees and shrubs would be utilised with good effect.

Re labelling Water Lilies, if there are too many plants to put labels in the ground opposite the plants which are in the water so as to know them, it will be advisable to draw a sketch of the water with the positions of plants and names of Water Lilies indicated thereon. This makes a good job of the names for all future reference.

A SHADY NOOK WITH OXALIS, TRILLIUMS, CYPRIPEDIUMS, ETC.

SOME PLANTS SUITABLE FOR ROCK AND ALPINE GARDENING,

With Hints on their Cultivation.

NOTE.—*The height of plants and months of flowering are given as nearly as possible.*

ACANTHOLIMON ANDROSACEUM, A. GLUMACEUM AND A. VENUSTUM.—These are charming plants for sunny chinks or fissures on the rocks, where they can be kept dry in winter. The flowers are rose-pink in colour, with spiny foliage. Height 4 inches. In bloom from June to September.

ADONIS AMURENSIS, A. PYRENAICA AND A. VERNALIS.—Very early and most useful spring flowering plants are these, with golden yellow flowers and pretty fern-like foliage. They require good sandy loam. Height 9 to 12 inches. In flower from February to June.

ÆTHIONEMA CORDIFOLIA, A. GRANDIFLORUM AND A. JUCUNDA.—These form miniature bushes, with masses of rosy pink flowers, when planted in a sheltered sunny position amongst the rocks. They like plenty of limestone grit and loam. Unless seed be wanted, they are best cut back after flowering ; this induces close growth, which is then very effective. Height 6 to 12 inches. In flower from May to July.

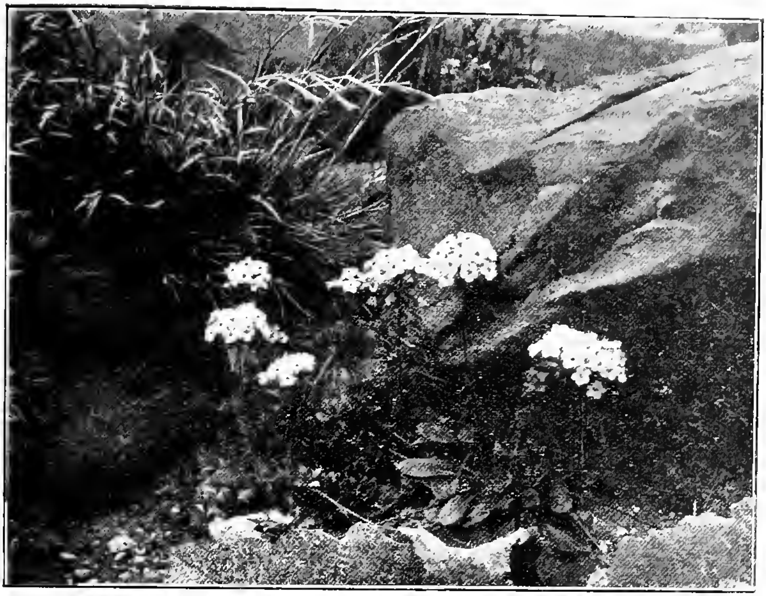
ALYSSUM ALPESTRE, A. MONTANUM AND A. PYRENAICUM.—These are not so strong growing as A. saxatile and its varieties. The two first named produce yellow flowers and the latter one white. They prefer a sunny aspect and plenty of limestone or mortar rubble as well as loam. Height 3 to 6 inches. In flower from May to July.

ANDROSACE.—This is a large family of interesting and most charming plants from high mountainous ranges. In most cases their foliage is white or silvery, and produces rosettes of a woolly appearance. A. Chumbyi, A. foliosa, and A. sarmentosa have pink or rose-coloured flowers, and should be planted in limestone grit, loam, and sand, mostly in slanting positions, in deep fissures of the rocks, where the water would not be so liable to damage them during the winter months. A. Chamæjasme and A. obtusifolia are white varieties, or white with pink eyes. A. lanuginosa does best when planted in a position where its slender stems can hang down over the rocks, yet at the same time it should not be too exposed to a winter aspect. A. Leichtlini is very similar, and requires the same treatment. All these Androsaces love a sunny position, well drained. They should be top-dressed with loam, sand, and grit in the early spring, with the exception of A. Chumbyi and A. sarmentosa, which require this treatment in August, and so enable the young rosettes, if gently pressed into it, to take root. A. coronopifolia requires to be treated as a biennial, and if planted in plenty of limestone, grit chippings, and sandy loam, it will reproduce itself freely, and bloom profusely. (See illustration.) Androsace carnea and A. Laggeri are rose-coloured varieties, and A. Vitaliana is the only yellow kind we have. These differ from the previously mentioned varieties, insamuch as they require a west or south-west aspect, so that they would be partly in the shade, as they do not like the rays of a too powerful sun. They always do best when planted in the grit of granite and other non-calcareous stone well mixed with sandy loam.

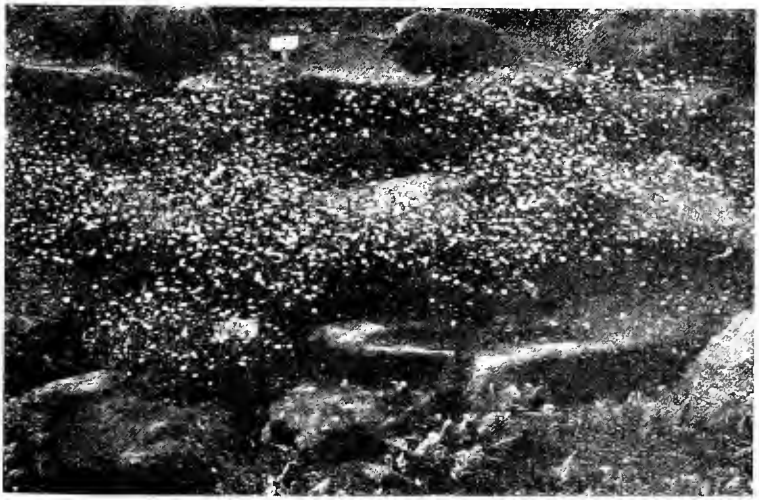
Those mentioned here are only a few selected as being the most easy to grow, out of the many varieties of Androsace in commerce, all of which, however, are worthy of a place in every large collection. The height of these plants is from 2 to 6 inches, and they are in flower from March to September.

ANEMONE ALPINA, A. APENNINA, A. BLANDA, A. ROBINSONIANA, A. VERNALIS, and others of the small-growing varieties ought to have a place in every collection, being of easy culture, when planted in good friable loam and given a shady place. Anemone sulphurea is always seen at its best when growing on granite, hence it should be given some of this material. A. pulsatilla, and its white counterpart, like limestone, but will be found to thrive in almost any soil and in any ordinary position. Height 6 to 24 inches. In flower from February to June.

ANTIRRHINUM ASARINA, A. GLUTINOSUM, AND A. SEMPERVIVENS are splendid plants for warm, dry banks and walls. No matter how poor the soil may be, if kept free from



SHOWING METHOD OF PLACING ROCKS SO AS TO KEEP SUCH PLANTS AS ANDROSACE SARMENTOSA FREE FROM EXCESS OF WATER DURING THE WINTER MONTHS.



ANDROSACE CORONOPIFOLIA: A GEM TO RE-PRODUCE ITSELF.

excess of moisture, and given the above situations, they will be found to soon spread and thrive. The blooms are white and cream-coloured, produced on trailing stems. Height 3 inches. In flower from May to September.

ARENARIA BALEARICA, AND A. MONTANA are two very useful kinds of a large family, inasmuch as the first named is indispensable for covering shady slopes, walls, etc. It creeps all over the surface where not exposed to the fierce rays of the sun. Myriads of small star-like white flowers. Height one inch. A. montana is a splendid plant for wall gardening and for making a bold show in a quick space of time. Large white flowers. Height 6 inches. In flower May to July.

ARNEBIA ECHIOIDES.—These plants produce rich golden yellow flowers, having a round dark spot towards the end of each petal, which gradually disappears with age. They are splendid for a moist—but well-drained—position. They come from the Caucasus mountains. Height 9 to 12 inches. In flower form April to September.

ARNICA MONTANA.—This is most useful for a sunny aspect, yet moist position. A little Sphagnum moss and peat added in planting will mostly meet its requirements. The flowers are large golden yellow. Height 9 inches. In flower from May to June.

CALANDRINIA UMBELLATA.—A charming plant is this for poor soil, and a sunny position, with bright magenta flowers, supported on slender stems. It is best to sow seeds of this plant in the chinks of the rocks, as it does not care to be disturbed after once established. Height 6 inches. In flower from June to October.

CAMPANULAS.—There being such a large variety of these useful plants, all of which are suitable for rock-work, it would be impossible to do them all justice in these pages. A small selection of some of the best would include C. abietina, C. Allioni, C. carpatica, and its varieties, C. cæspitosa, C. cenisia, from Mont Cenis, C. Elatines, from Piedmont, C. Erinus, C. G. F. Wilson, C. Hostii, and its white form, C. muralis (Syn Portenschlagiana), C. pulla, C. pumila and C. p. alba, C. Raineri, from North Italy, C. waldsteiniana and C. Zoysii. These and others of the Campanulas, when seen growing in a healthy condition and in congenial surroundings, cannot fail to make a good impression. They are mostly blue and white in colour, some of the shades being much lighter than others; whilst some of them are bell-shaped and others saucer-shaped, thus providing a very pleasing and charming contrast, when planted in the proper positions in the rock garden. With the exception of C. Allioni and C. pulla, they should be given a liberal supply of limestone and sandy loam, although the carpatican varieties will be found to do well in almost any sandy soil or any position. Generally speaking, they mostly prefer a sunny position, and a top-dressing of sharp grit and sand applied in the autumn will be found very beneficial to them, and also help to keep off the attacks of snails, etc., when they make their new growth in the spring. Height 3 to 12 inches. In flower from May to September.

CORTUSA MATTHIOLI GRANDIFLORA is a beautiful little mountain wood plant, producing bright purplish-red flowers. It requires a moist, shady position, with plenty of leaf mould, peat and sand. Height 9 inches. In flower from April to June.

CYANANTHUS LOBATUS.—This is a most valuable alpine from the Himalayas, producing dainty blue flowers, bearded with white. It is a grand plant for a south-east aspect, well drained and moist; and likes plenty of leaf mould, loam and grit. Height 3 inches. In flower from July to September.

CYCLAMEN—HARDY, IN VARIETY.—These comprise some of the best subjects possible for planting near the roots or under the shelter of old trees, or at the edge of shady walks, where they have a delightful effect. It is important that they should have plenty of drainage, composed of old mortar rubble, and peat and leaf mould should be added to the soil. Some of them bloom during the greater part of the year, there being white, rose, crimson and other coloured flowers, whilst the foliage of some is handsomely marbled. Height 3 inches. In flower from January to October.

CYPRIPEDIUM—HARDY, IN VARIETY.—The hardy terrestrial Orchids are among the most beautiful bulbous flowers we possess, and thrive in shady and moist situations where the drainage is perfect. Anyone who has not grown them would do well to obtain a few sorts such as C. acaule, rosy purple; C.

calceolus, brown and yellow; and C. spectabile, white and pink. They should be planted in a mixture of loam, peat, leaf mould and sand. Height 12 to 24 inches. In flower from May to July.

DAPHNES, such as D. Blagayana, creamy white, D. cneorum, rosy red; and D. rupestris, soft pink; all early-flowering shrubs, admirably lend themselves for planting, amongst the rocks, in partly shaded aspects. Most of them require a mixture of peat, limestone, fibrous loam and sand. Height 6 to 12 inches. In flower from April to August.

DIANTHUS.—This is another large genus of, for the most part, sun-loving plants, a great many of which are useful for planting in walls and crevices. With few exceptions they are of easy culture, and mostly prefer limestone or mortar rubble in the soil. Perhaps D. cal-alpinus is the most difficult to grow. D. glacialis does not care for limestone; it prefers sand-stone or granite, mixed with loam, leaf mould, and sand. As far as possible a top-dressing of leaf mould, sand, and grit should be given them once or twice a year, preferably in March and September. The flowers are produced in most instances in great abundance, ranging in colour from the purest white to the softest rose and deepest crimson. The most useful varieties, besides those already mentioned, are D. alpinus, D. arenarius, and D. atrorubens, from Switzerland; D. cæsius (The Cheddar Pink), D. cruentus, D. deltoides, and its white form, D. plumarius, D. superbus, and D. sylvestris, all of which are of the easiest culture, and will grow in an ordinary mixture of loam and chippings. Height 3 to 18 inches. In flower from May to October.

EDRAIANTHUS DALMATICUS, E. PUMILO, E. PUMILIORUM, and **E. SERPYLLIFOLIUS,** are all perfect gems, which should be found in every collection good. They have handsome dark-blue campanula-like flowers, and thin wiry glaucous leaves, and should be planted in dry sunny positions in the fissures or chinks of rocks, where their roots can obtain plenty of moisture from grit and stones; behind this the soil should be of a calcareous nature. Being of a slender and wiry growth, it is as well to work a little top-dressing of small limestone chippings, loam and sand in and about the plants in early spring, which, besides providing them with nourishment, will help to keep the foot stalks erect, and so protect them from the wind when flowering. Height 2 to 4 inches. In flower from May to July.

EOMECON CHIONANTHA.—This is a shade-loving and somewhat curious plant from China, having delicate snow-white blossoms with yellow stamens. The soil should consist of peat, loam and sand. Height 15 inches. In flower from April to July.

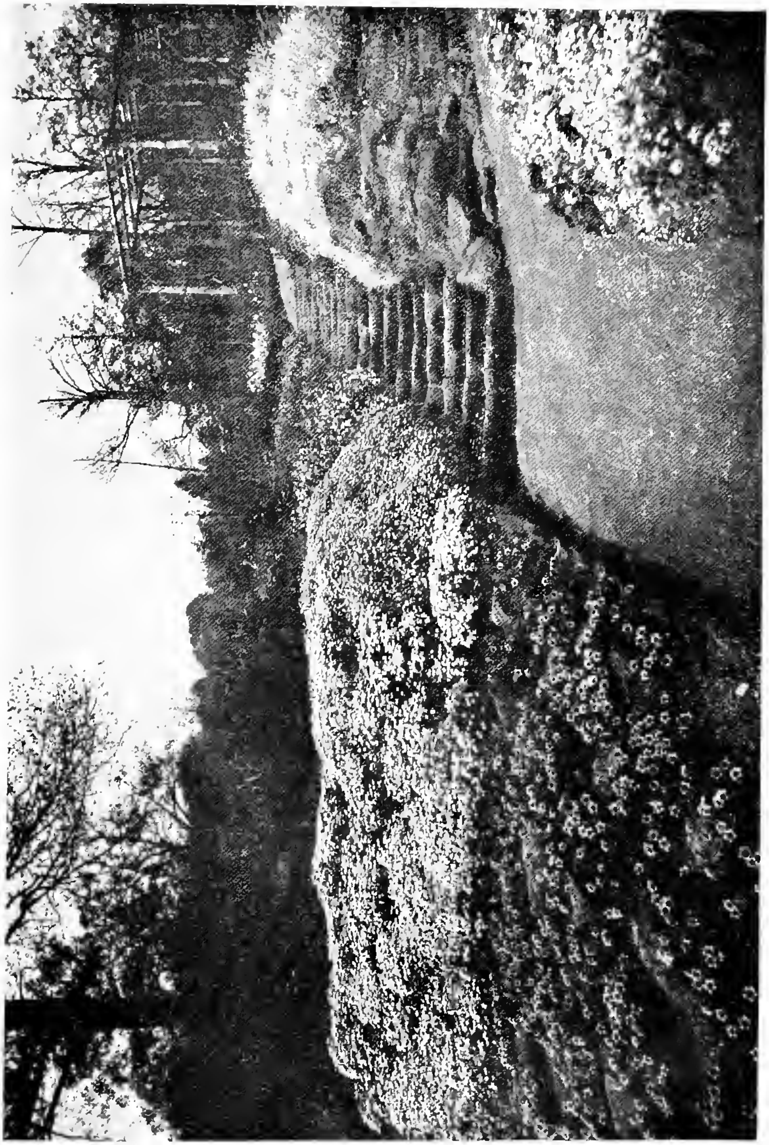
EPIGŒA REPENS is another rare little plant for a shady position; it is evergreen and of prostrate habit and produces sweet-scented pink and white heads of flowers. This is a fine plant for growing in the shade of larger trees or shrubs, or on the north side of rockwork, where protection from the wind could be given. It is most essential to top-dress it in early spring with a mixture of loam, peat and leaf mould, taking care at all times to see that the shoots are kept pegged down, as it is through neglect of this that so many of these plants are lost. Height 6 inches. In flower from April to May.

ERITRICHIUM NANUM.—This is a gem form the high alpine regions, where it is found growing on granite rocks. It is one of the worst characters we have to deal with, as far as establishing it goes, in this country, as it does not like moisture, at the least excess of which it mostly dies. I have seen nice plants in full bloom and doing well where a little trouble and care have been bestowed upon them in the following way: Keep them quite dry from the beginning of October to the end of February, as they are practically at rest during that period. No signs of life are apparent until about the month of February, when growth begins, but even then they must not be watered. After growth has proceeded for four or five weeks water may, if absolutely necessary, be given them, but it must be applied gently, and none must be put on the leaves. The mixture in which they are grown should be of a fine composition, consisting of leaf mould, peat and sand—the fineness is important, as the roots are minute and of delicate texture. In planting lay this compost upon a stone, in which place the plant, then put another smaller stone upon this, in such a way as to keep the water off the front part of the plants, but at the same time convey it to the roots of the plants. Be careful to make the plants firm and to put enough compost between the stones, which the roots may readily find. Above all—and I again emphasise this—make provision for keeping them perfectly dry in winter. A nice sunny aspect suits them best. The plants form dense silky cushions, and the young leaves are at first covered with silky hairs, which gradually disappear as the plants get older. The flowers are of a brilliant, rich blue colour—so intense a blue, that I know of no other alpine to equal them in this respect. Height 3 inches. In flower from June to July.

GALAX APHYLLA is a beautiful little evergreen from North America, with round leaves which turn deep crimson in the autumn, and white, wand-like flowers. This is a grand plant for bogs, or to associate with the Shortias. The soil should consist of moist peat and leaf mould. It prefers a north-west aspect. Height 9 inches. In flower from June to July.

GAULTHERIA PROCUMBENS.—This evergreen shrub has prostrate stems, white flowers, and scarlet-crimson berries in the late autumn. It thrives under such trees as Firs and Yews, where scarcely anything else will grow. Is also admirably adapted for exposed positions on the rockwork, and being a native of the cool, damp woods of Canada, prefers a moist peat soil. G. Shallon is much larger in growth, and bears a pink flower. This is a grand plant for the rougher parts of the large rock garden or along a shady walk. Height 12 to 36 inches. In flower from June to September.

GENTIANA ACAULIS, with their large blue flowers, are so easy to grow, that I need say very little about them. What they require is to be planted in a strong loam with a little limestone added, the same to be made firm by treading upon it. They prefer a position where they would be able to obtain shade from the early morning sun, as we mostly get several frosts at the time when they are in bloom, and I find that the flowers are apt to get damaged if the sun shines upon them immediately afterwards. G. Bavarica and G. verna are two exquisite gems, from high mountainous regions, having small tufts of deep green leaves and intensely blue flowers, which, for brilliancy of colour, closely rival Eritrichium manum. G. Bavarica is generally found growing in a moist situation, composed of a pongy peat, whilst G. verna is more at home in a dryer position.



PORTION OF LORD ALVERSTONE'S ROCK GARDEN, SHOWING LARGE "COLONIES" OF SAXIFRAGA WALLACEI, GENTIANA ACAULIS, ETC., WITH ARMERIA MARITIMA LAUCHEANA AT FOOT OF THE STEPS.

So that in planting we should arrange to give G. Bavarica a good supply of peat and Sphagnum moss to retain the moisture, taking care at the same time that the drainage is perfect. A little loam and sand added would be found beneficial. Give the ground a good treading before planting, as most Gentians like as firm a bottom as possible. G. verna requires less peat, but more loam and sand. I have obtained excellent results by mixing a quantity of broken pieces of coal with this when planting. After growth has commenced and the flower stems appear, give the plants a top-dressing of sand, leaf mould and coal grit, well mixed together, and place this carefully in and about the young growths. This will help to feed them, and also keep the flower stems from getting broken during rough weather. I have found a south-west aspect to suit them best. In watering use a fine rose during early morning, before the sun has attained power. If it is a very hot dry summer, it will be necessary to water them every other morning; especially G. Bavarica, or otherwise they will suffer. I think these three Gentians are grown in almost every collection, whether large or small, hence my reason for giving such explicit directions. G. septemfida is also worthy of a place in every collection. It does well in a half shady position, and requires a mixture of loam and peat, with a little sand. Besides bearing pretty clusters of bright blue flowers, it is in bloom at a much later season of the year than the others I have named. There are a great many more varieties which might be mentioned, did space permit, all of them more or less useful and beautiful. Height 3 to 9 inches. In flower from April to September.

GNAPHALIUM LEONTOPODIUM (Syn. Leontopodium alpinum). The much sought after and famous "Edelweiss" of the Alps is one of the easiest of all alpines to grow, as it can be cultivated in any ordinary garden soil. Its foliage, however, is never so white as when growing on limestone, hence the reason why we always see such large and very white flowers on the plants growing on the Swiss Alps. The fact of their being so white, downy and woolly in appearance clearly indicates that they require a sunny position, and, given this, together with a mixture of loam, limestone, and sand, one need have no difficulty in successfully cultivating them. They are easily produced from seed, the best time for sowing being in the autumn, as they generally make nice plants ready for planting when spring comes. G. himalayanum requires similar treatment to the above. It is a stronger growing variety. Height 6 to 12 inches. In flower from June to July.

HABERLEA RHODOPENSIS carries dense tufts or rosettes, very much resembling the Ramondia, but with pretty tubular-shaped, bluish-lilac flowers. It should be planted in a slanting position on the north side of a rock. Height 6 inches. In flower from May to July.

LEWISIA REDIVIVA is an interesting plant from the Rocky Mountains, having long, fleshy, tapering roots, at the summit of which arise clusters of small tufts of foliage, about an inch high. The flowers vary from satiny rose to white, and are from 1 to 1½ inches across. The plant should be given a dry, sunny position in a crevice of the rock, with an abundance of sandy loam and grit. L. Tweedyi is a rarer North-American introduction, equally as interesting as the foregoing variety, but it requires a more shady aspect. The flowers are rose-pink in colour, and 3 inches high, and are in bloom from June to July.

LINNÆA BOREALIS is said to have been a great favourite of the famous botanist from whom it derives its name. It is a neat, trailing evergreen shrub, producing upright stems, each containing two flowers of a rosy white colour, fragrantly scented, and delights in a cool shady position and to be grown in a mixture of sandy loam and peat,and if obtainable a quantity of "fir tree spines." This plant is mostly found growing in its native habitat under fir trees, therefore it delights in the soil which is largely composed of the spines which fall from them. In bloom from June to August.

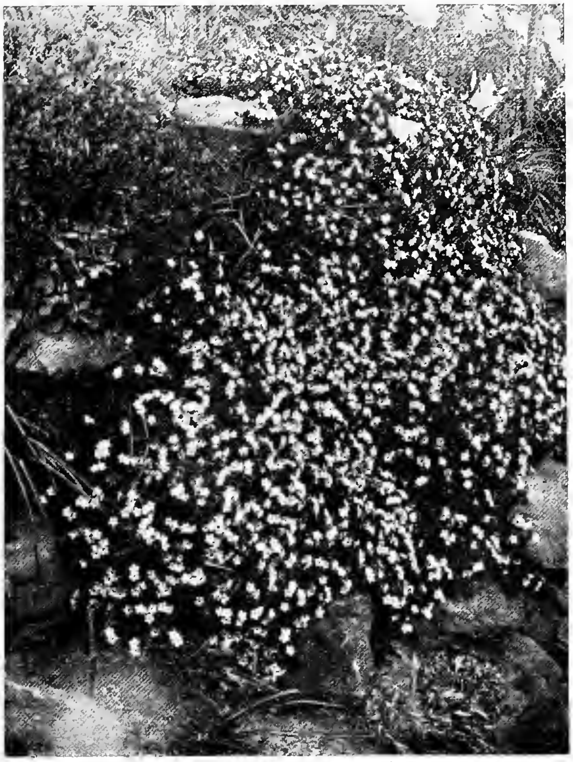
LITHOSPERMUM CANESENS is a recently introduced yellow variety from America. It requires a sheltered half-shady position, and likes sandy loam and grit. L. graminifolium is a splendid shrubby plant from Northern Italy, where it is found growing on the limestone rocks ; it therefore requires limestone for its successful culture, or some mortar rubble may be mixed with the above-mentioned compost. It should also be top-dressed once or twice during the year with this material. A sunny, well-drained position suits it best where the rain would not be liable to get at it in winter. L. petræum, a shrubby variety from Dalmatia, should be planted in a full sunny aspect, in a well-drained, deep, sandy soil, with which it should be top-dressed in early spring and autumn. The plant has clusters of pendent blue flowers. L. prostratum is too well known to need any description from me, its deep blue flowers being nearly as good as those of the Gentian. It prefers a north-west or north aspect, delights in a good rough mixture of loam and peat, and should be planted in a sheltered position, and preferably where its foliage might hang down over the rocks. At the same time it would be best if pegged down between the crevices of the rocks ; it would, after the first year's growth, root and grow more rapidly, and so make a much finer display. A top-dressing of loam and peat should be given every spring. Height 3 to 12 inches. In flower from April to October.

MECONOPSIS CAMBRICA, and its orange-coloured and double varieties, are well worthy of a place in every shady nook, and are very easy to grow. M. integrifolia, a splendid introduction from Thibet, having large golden yellow flowers, should also be given deep shade and planted in loam, peat and leaf mould. During the summer it should have a copious supply of water, as at this period of the year it will require to be kept moist, so as to enable it to develop its large flowers. It should also be planted so that its foliage would be protected against an excess of moisture and of cutting winds during the winter months, and this could be effected by placing one or two rocks and small stones about it. These notes also apply to the rare scarlet variety M. punicea and M. Wallichi, the beautiful blue Himalayan Poppy. Height 12 to 30 inches. In flower from May to September.

MESEMBRYANTHEMUM UNCINATUM is quite hardy, but requires a position sunny and sheltered against the snow and wet in winter. It is a succulent plant, having curiously jointed thick stems, and pink flowers. A sandy loam with an abundance of small stones and chippings will be found to suit it admirably.

MITCHELLA REPENS.—This is a very interesting little creeping evergreen plant from North America, attaining the height of only from 2 to 3 inches. It produces white flowers in summer, succeeded by bright red berries, and thrives best in sandy peat and leaf mould, in a sheltered shady aspect, where it can be pegged down, and top-dressed once a year, so as to enable the young shoots to make roots therein.

MORISIA HYPOGÆA.—A most useful and charming plant from the mountains of Sardinia, having evergreen rosettes and bright yellow flowers, produced in early spring and summer. It is of very easy culture when planted in well-drained, deep, sandy loam, with plenty of grit and in a south aspect. Height 3 inches.



LITHOSPERMUM PROSTRATUM.

OMPHALODES LUCILLÆ is a re-introduced gem from Asia Minor, very lovely and choice. Its flowers are much larger than the type, and are of a pinkish colour in the early stages, afterwards changing to a transparent blue. All that is necessary to ensure success in its cultivation is that it should be given a mixture of sandy loam and peat with plenty of grit and small chippings. It prefers partial shade, so should be given a choice position behind a rock, where it would also obtain shelter from the cutting winds. This plant is one which requires close attention during the early spring months, as it is very much appreciated by slugs, etc., from whose attacks it should be protected by perforated zinc rings until sufficient growth has been made to place it out of harm's way.

ONONIS ROTUNDIFOLIA AND FRUTICOSA are two very easily grown shrubby plants, suitable for dry, rough parts of the rockwork. Like the Omphalodes the slugs are also fond of these, and must be guarded against, although this may be done without having recourse to the zinc rings. Rosy-pink flowers from May to July.

ONOSMA TAURICUM, another grand plant for a dry sunny position, where it would be free from excess of moisture in winter; prefers to be planted on a slightly raised position and wedged firmly between stones in a compost of sandy loam and peat. Clusters of pendant and golden yellow almond-scented flowers are produced in great profusion during the summer months. It is a native of Greece. Height 6 inches.

OXALIS ENNEAPHYLLA, one of the most charming plants we possess, has large white flowers with glaucous silvery foliage. Sandy loam and a warm but not too sunny position meet its requirements. Height 3 inches. In bloom May to July.

PAPAVER ALPINUM, and its orange and yellow forms, with their deeply cut foliage, always thrive best and bloom to greater advantage when planted in a sunny position amongst plenty of small stones. Height 6 inches. In flower May to August.

PETROCALLIS PYRENAICA.—A small Draba-like plant from the Pyrenees, forming miniature cushions 2 or 3 inches high, which produce sweet-secnted pale lilac flowers in early summer, on stems 5 or 6 inches in height. Should be given an exposed position, with plenty of sandy loam and grit.

PHLOX AMŒNA, P. SETACEA, P. SUBULATA, and their varieties, are so useful and charming, that it would be hardly possible to omit mention of them here. Nearly all of them are worthy of a place in every rock garden, as they are of easy culture, and adapt themselves to almost any kind of soil, provided it is well drained. A sunny position suits them best, and when planted on the level in chinks, or so as to form cushions, they always have a charming and most pleasing effect. Flowers various shades of pink and lilac or white, 3 to 12 inches in height, from April to August.

PHYTEUMA COMOSUM is one of the most interesting and curiously formed plants I know of. It grows to the height of 2 or 3 inches and has almost stemless flowers of a dark blue and white colour. It should be planted in a deep vertical fissure, in a mixture of limestone chippings, loam, and grit, in a sunny position. P. orbiculare and P. Sieberi are quite distinct from the preceding, being much stronger growing varieties. All the Phyteumas are subject to the attentions of slugs; especially should P. comosum be looked after and kept free from these intruders. Height 2 to 12 inches. In bloom from June to August.

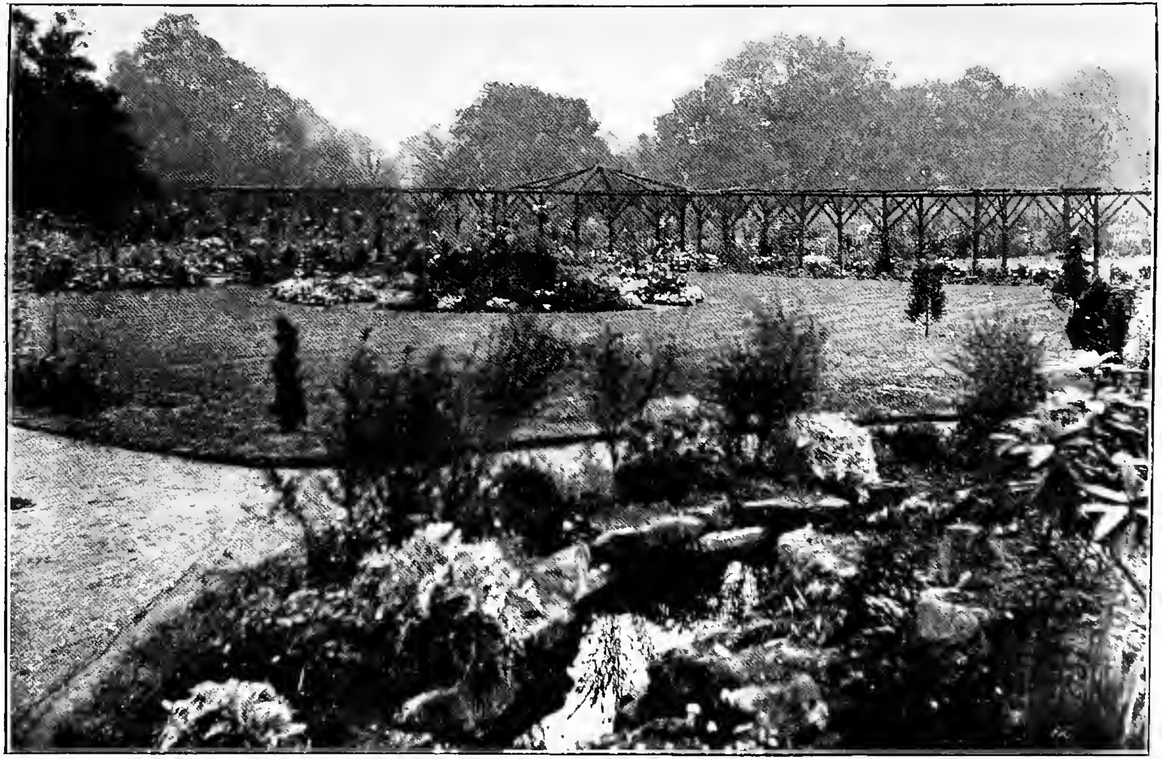
POTENTILLA NITIDA, P. N. ATRORUBENS, and **P. N. ROSEA** are beautiful little plants, with silvery foliage and delicate pink and purple flowers. Lovers of limestone, they require this material, with an addition of loam, well incorporated; also a south aspect where they would be kept fairly dry, and if on a slightly elevated position so much the better. A top-dressing of grit and small limestone chippings should be given once a year, which will be found of great value to them during the summer months. P. nivalis, another charming variety with yellow flowers, objects to limestone, preferring granite rocks instead. In the Alps, it is always found growing among these. Height 3 to 6 inches. In flower from May to August.

PRIMULAS.—This is such a large genus that I am unable to deal with the majority of its species in these notes, but must confine myself to a description of a few of the most beautiful kinds only, which should be found in every rock garden. Regarding the family as a whole, a good depth of friable loam, grit and sand, with not too great a surface of soil, fully answers their requirements, care being taken to plant them in a slanting position so that the water will not remain in the centres of the plants and so cause decay. P. algida, with rosy pink flowers, is closely allied to P. farinosa, and needs a sunny, but moist, aspect. It is a native of Siberia. P. Allioni, from the Dauphine Alps, a dwarf and compact plant with large rosy purple flowers, requires plenty of stiff loam and limestone, half of each, in which to grow. A good plan to adopt in planting is to make a much larger hole than is usual for the reception of the compost, but before putting it in, place some Sphagnum moss in the bottom in order to help to retain the water and so keep the roots of the plants cool during the summer. This is most essential for the well-being of this particular variety of alpine. An open aspect on the north side of the rockery is the best position in which to grow this lovely plant. P. auricula, the alpine variety, has golden yellow flowers with a white farina on the leaves. P. capitata carries round heads of deep blue, and flowers during the months of August and September. It is closely allied to P. denticulata, and prefers a moist soil; it is a native of the Himalayas. P. Clusiana, a charming rose-coloured species from the Tyrol, is a splendid subject for the sunny chinks of rocks. P. denticulata, the well-known purple variety from the Himalayas, is of easy culture, when given partial shade and stiff loam. P. d. cashmiriana is very similar to the preceding, and of equally easy culture. This and the preceding kind flower in early spring. P. farinosa has lovely bright rose-coloured flowers with yellow eyes carried on slender white stalks, and with foliage thickly set with white farina. Moist turfy loam embedded in stones are the conditions it likes best. It is a native of the British Isles. P. glutinosa comes from the Tyrol and has clusters of nearly blue flowers. It will not do on limestone, but requires moist peat soil and a little sand. P. japonica and its varieties are too well known to require description, and they will practically thrive in any retentive soil that is partially shaded. This is a fine bog plant. P. marginata and its varieties do best when planted in chinks of the rock, where they can revel in gritty soil. The flowers are a good lilac and the leaves grey with a silver margin. P. Parryi has whorls of rich crimson flowers with a white eye, and comes from the Rocky Mountains. It requires a compost of peat and loam with the addition when planting of Sphagnum moss as described for P. Allioni, as it is soon affected by the heat, hence also the necessity for partial shade. P. rosea, a charming little plant, of easy culture, prefers a deep strong loam and a damp, shady situation. P. sikkimensis, another grand plant for the bog, or a moist shady position, requires plenty of grit and chippings, with strong loam and peat, and so as to ensure perfect drainage, care should also be taken to plant in slanting positions. These varieties are from 3 to 12 inches in height, and bloom from April to June. P. viscosa and P. nivalis alba are perfect gems for nestling in the crevices and chinks of the rocks in partially shaded aspects, where they can be given a good depth of peat, loam and sand. The flowers are of a pretty, bright rose and pure white, height 3 to 4 inches. In flower during the months of May and June. Amongst recent introductions are two or three charming varieties which ought to be found in every collection; I refer to P. Bulleyana, P. Forrestti, and P. Littoniana. P. Bulleyana is a grand plant in every respect, quite hardy, and in colour is a combination of orange, scarlet, apricot and buff, produced in tiers.

P. Forresti bears orange yellow flowers, deliciously fragrant and is a charming plant. Perhaps the finest acquisition of late years in this large genera is P. Littoniana. It is quite distinct from all others, inasmuch as it causes a great amount of attention and interest to the grower before it comes into flower, as its spikes, some 1½ to 2 feet in height, are composed of bright red calyces which make a fine effect before they expand. When open they vary from a soft rose to a dark purple colour. A truly magnificent plant.

RAMONDIA NATHALIÆ, R. PYRENAICA, R. P. ALBA AND R. SERBICA.—All these are gems of the first order, and of easy culture when planted on a north or north-west position on the rockery. They delight in a compost of peat, sand and loam, and should be planted in fissures, or deep crevices of the rock, in vertical positions, so as to prevent the wet from getting into the centres of the rosettes during the winter months, this being the cause of so many failures in attempting to grow these plants. The leaves are of a thick nature, and so closely studded together that if planted on the level with the soil they are unable to survive the injurious effects of water which accumulates in their centres, and so brings about decay. At the same time they are moisture-loving plants, and care should be taken that they do not suffer from want of water during summer, which, if feasible, should be applied to them as late as possible during the day, so as to prevent damage by the sun to their beautiful hairy foliage. The blossoms are of an exquisite pale blue, purple and white, with mostly orange-coloured centres. They flower from May to July, and are natives of Servia and the Pyrenees. Height 3 to 6 inches.

RANUNCULUS ALPESTRIS, a fine species from the Alps, forms small tufts of dark green glaucous foliage, with large white flowers, on stems 3 or 4 inches high. It requires a partially shaded position, well drained and moist, and a compost of granite chippings, sandy loam, and leaf mould. R. glacialis, with its thick grey foliage and large pale pink flowers, passing to a deeper colour with age, also requires a shady aspect and compost as above, but as it is found growing where the snow is gradually melting, it therefore needs to be kept very cool and moist during the late spring and summer months by giving copious watering right through its growing and flowering season, after which water should be withheld. Plant firmly, allowing the crowns of the plants 2 or 3 inches of compost right over them, which will greatly assist them during the growing period. A top-dressing of small granite chippings and rough grit will be of much service to both these varieties, and also help to keep slugs from eating the crowns just as they are coming through the ground. Other rare and choice varieties of Ranunculus will be found in R. Lyalli, a pure white anemone-like variety from New Zealand, requiring an abundance of peat, and a warm but not sunny position on the rockwork. R. parnassifolius, another beauty from the Alps and the Pyrenees, calls for much the same treatment as R. alpestris and R. glacialis, being found growing in granitic soils. Height 3 to 6 inches. In flower from May to July.



VIEW SHOWING HOW ROCK AND WATER, INTRODUCED JUDICIOUSLY, WILL HARMONISE WITH A ROSE GARDEN AND PERGOLA, AS RECENTLY FORMED AND ERECTED BY THE AUTHOR FOR FRANK COPEMAN, ESQ., SHENFIELD, ESSEX.

SARRACENIA PURPUREA.—The hardy pitcher plant, with its curious and most interesting horn-like leaves, being very broad in proportion to the height of the plant, which does not exceed 12 inches, is a good subject for a sheltered sunny position in the bog garden, or other moist place, where it should be planted in a mixture of peat, sand, and Sphagnum moss. A top-dressing of the same will be beneficial in early spring, helping to keep the plant cool, as well as providing it with nourishment.

SAXIFRAGA.—We come now to a very large and useful genus of plants, adapted for almost any soil or position we can mention. Scarcely any of them are difficult to grow, the chief point to consider being the most suitable position for each particular kind. Thus S. aizoon, S. Cotyledon, and S. longifolia, and their varieties delight in a sunny position ; they are not at all particular as to soil, but are seen at their best when growing in limestone, mortar rubble, or such like grit. It is well to plant these varieties, as far as possible, in and about deep crevices and fissures of the rocks, where they can be seen at their best. They should not be planted perfectly level, but in a slanting position, so that water will not be able to remain on the foliage, and so cause them to rot. S. longifolia is very liable to perish from this cause. We always find them growing on limestone rocks in the Alps in positions where the water cannot remain on their foliage. Then there are such kinds at the S. Burseriana and S. Boydii sections to be considered. These prefer a more calcareous soil, with an abundance of grit, and a partially shady position, where they can have protection from excessive moisture during the winter months. They are very desirable plants, and have large white and yellow flowers.

In the mossy section we have a large field of choice, especially for carpeting or clothing purposes, or making margins, etc. All are well adapted for shade, or partial shade ; in a very sunny position they would get burnt, and so go brown. The Oppositifolia varieties also require shade, and a good rough gritty compost, in a position where they could get a top-dressing of loam, grit, and sand in early spring and autumn, at which times the growths should be pegged down to enable them to root, and so produce larger and bolder masses. There are also many distinct species and varieties, useful for particular positions and purposes, some of them being small and dwarf, while others, such as S. peltata, grow to the height of from 2 to 3 feet, and produce the most beautiful, stately foliage. These are suitable for a moist situation. During recent years we have obtained some very interesting introductions from Macedonia: S. Griesbachii, one of these, producing rosettes about 2 inches across, glaucous blue and silvery in appearance, from which pendent spikes of deep carmine-coloured flowers are produced in February and April, is worthy of a place in every collection. It requires a sunny position and a compost of well-mixed loam and sand, with a little limestone.

Further reference will be found *re* this family in the various selections further on.

SHORTIA GALACIFOLIA is one of the most beautiful plants ever introduced from North America, having large white Soldanella-looking flowers, quaintly frilled, which are produced in spring, whilst its rather oval-shaped deep green foliage changes to a reddish bronze and crimson in autumn. It delights in a north-west or shady position, in a mixture of friable loam, peat, and sand, where it would obtain plenty of moisture during hot weather, as this is a plant which suffers very quickly if allowed to get dry, hence it should be given a copious supply of water when necessary. A top-dressing of the above-mentioned compost should be worked in and about the plants, once or twice during the year, so as to feed the plants and encourage fresh root action, as they are very shallow-rooted. S. uniflora, of recent introduction from Japan, has bright rose-coloured flowers, and requires much the same treatment as the above. Height 6 inches. In flower from May to July.

SILENE ACAULIS and its varieties are all charming and effective plants. They thrive best in a poor, gritty soil, and are especially suitable for planting sideways, in narrow, vertical fissures; hence their extra usefulness. Very pretty white and rose-coloured flowers are produced from 2 to 6 inches in height in June and July. Most of the other varieties are well worth growing, some of the rarer sorts requiring more cultural attention, S. Elizabethæ and S. pumilio being good examples of this class. They should be given a mixture of loam, grit, sand, and peat, in a well-drained position exposed to the south, tightly wedging in the plants between some stones so as to keep the soil moist during the summer.

SOLDANELLA ALPINA, S. MONTANA, AND S. PUSILLA are all charming and interesting little plants from the high alpine regions, where we find them growing in great profusion at the foot of the ever-melting sheets of snow. How glorious they look, seen growing under such conditions as these! The flowers are mostly of a bright blue colour; some three or four pendent, bell-shaped blooms, deeply cut and toothed, are borne on little slender upright stems, which spring out of small round leathery-looking foliage. The best places in which to plant them are narrow crevices on a level position, plenty of peat and sand being added to the soil; if not of a spongy nature, it is well also to put some Sphagnum moss at the bottom of the hole when planting; also some small stones and chippings over the surface to keep the plants cool and moist. Being completely covered up with a thick layer of snow during the greater part of the year in their native homes, they are out of harm's way, and are kept fairly dry; so we should contrive to protect them from too much wet during the winter, otherwise they may perish. Height 3 to 6 inches. In bloom from April to June.

TECOPHILÆA CYANOCROCUS and its varieties are charming spring flowering bulbous plants from Chili, and most useful for warm sheltered positions; planted in any other situation, they will not survive the winter. A rich sandy soil is necessary for their successful culture, and a layer of sand must be placed over the bulbs when planting, making the whole firm.

VERONICAS IN VARIETY — NEW ZEALAND AND OTHERWISE.—A few of the dwarf-growing kinds may be used with advantage if judiciously selected. The shrubby varieties require to be planted in a sandy loam in a well-drained and sheltered position, as they are liable to get cut by the frost during winter. V. cupressoides, V. Hectori, V. lycopodioides, V. pinguifolia, and V. salicornioides are amongst the best in this section. The most valuable of the alpine or herbaceous kinds for carpeting or massing are: V. Bidwelli, V. incana, V. prostrata, V. repens, V. rupestris, and the varieties of V. spicata, all of which will thrive in nearly any soil and give pleasing results.

In the following pages will be found selections of plants suitable for various soils, aspects, and purposes.

PLANTS RECOMMENDED FOR EASY CULTURE AND USEFUL FOR MASSING; THEY REQUIRE A SUNNY POSITION, AND WILL GROW IN ORDINARY LOAM AND CHIPPINGS.

ACHILLEA ARGENTEA, A. Clavennæ and A. Huteri, white flowers and foliage. 6 inches; April to August.

ALYSSUM SAXATILE and its varieties, especially Tom Thumb and fl. pl., the double flowered variety, yellow. 9 inches; May to July.

ANTENNARIA in variety, white and rose. 3 to 6 inches; April to June.

ARABIS ALPINA and A. a. flore plena, and the single and double variegated varieties, white. 6 inches; April to June.

ARENARIA GRANDIFLORA and montana, white. 6 inches; May to July.

AUBRIETIA in variety. 3 to 6 inches; April to September. The best are: Bridesmaid, rose; Campbelli, blue; Dr. Mules, rich glowing purple; Fire King, deep crimson; Leichtlini, rosy crimson; Moerheimi, large rose; Prichard's A1, large deep violet purple; Purple Robe, bright purple; Souvenir de Wm. Ingram, large rosy pink, and Wallacei, a very continuous blooming variety.

CAMPANULA, most of the dwarf varieties should be grown. 3 to 12 inches; May to October. Useful are: C. Abietina, light blue; C. Allioni, large blue; C. carpathica, its white and blue varieties; C. F. Wilson, blue; C. garganica, and its white form, also C. g. hirsuta, blue; C. muralis (Syn. Portenschlagiana); C. pulla, blue; C. pusilla and its white variety; C. turbinata, rich blue, and its beautiful white form.

CERASTIUM BIEBERSTEINII and C. tomentosum, white. 6 to 9 inches; June to August.

CHEIRANTHUS ALPINUS, yellow, and Allioni with its rich orange yellow flowers. 6 inches; April to June.

DIANTHUS in variety. 3 to 18 inches; May to October. The best are:—D. arenarius, white; D. cæsius, rose; D. cruentus, rich crimson; D. deltoides and its white form; D. fimbriatus, white; D. plumarius, and its varieties; D. squarrosus, white; and D. superbus, pink.

ERIGERON in variety. 6 to 12 inches; May to September. E. alpinus, blue; E. aurantiacus, bright orange; E. caucasicus, E. glabellus, and E. Roylei, all blue.

GERANIUM in variety. 6 to 24 inches; May to October. Blue, white, and pink in colour. Practically all will do well, but G. argenteum and G. cinereum require limestone or mortar rubble added, as they are always seen at their best when growing in this.

GEUM COCCINEUM, and the new double variety. Mrs. Bradshaw is a grand acquisition with large red flowers. G. Heldreichi and G. miniatum, orange red, are all suitable for large rockeries. 12 to 24 inches; May to September.

GYPSOPHILA in variety; white and rose flowers. 3 to 18 inches; June to October.

HELIANTHEMUM in variety. 3 to 9 inches; May to September. All these are most useful, and produce a grand effect when planted in prominent positions, especially such kinds as H. vulgare Fireball and H. v. Garibaldi, which are of a bright red hue, and show up from a long distance.

HEUCHERA in variety. 12 to 24 inches; May to September. These are very light and graceful in appearance, and in colour pass from creamy white, coral-pink, to deepest crimson.

IBERIS in variety. These give sheets of pure white; 3 to 12 inches; April to September.

LINUM ALPINUM, pale blue; L. arboreum and L. flavum, yellow; L. narbonense, blue; and L. monogynum, white; 12 to 24 inches; June to October.

ŒNOTHERA in variety; white, yellow, and rose, all of which are more or less useful for a rockery, where space is no object. Œ. marginata, Œ. pumilo, and Œ. speciosa are small growing kinds. 6 to 24 inches; June to October.

PENTSTEMON Fire King and P. Newbury Gem are dwarf hybrids, which lend themselves admirably for massing. Their colours, being of a rich crimson, can be seen to great advantage. 9 to 12 inches; July to October.

PHLOX, alpine and dwarf varieties, the best of which are P. amœna and its kinds; P. canadensis (Syn. divaricata), blue; P. pilosa, blue; P. reptans, pink; and P. setacea and its hybrids. Especially good are P. s. The Bride, white; P. s. lilacina, soft blue; and P. s. Vivid, bright rose-salmon. 3 to 12 inches; April to October.

POTENTILLA atro-sanguinea, dazzling scarlet; P. formosa, soft pink; P. f. Miss Willmott, bright cherry red; and P. Hopwoodiana, very showy salmon-apricot flowers. 12 to 18 inches; June to September. All these varieties are single flowered, not the double garden varieties.

SAXIFRAGA COTYLEDON and its hybrids will be found to do well in almost any kind of soil, and if massed closely together cannot fail to attract notice when in bloom. There are many more kinds of Saxifragas which are adapted for grouping, and would thrive in this position, but I choose this one as being the most effective for so little trouble in growing it. 9 to 24 inches; May to June.

SEDUM AND SEMPERVIVUM.—Most of these will thrive when planted in the poorest and shallowest of soils. The majority of them soon spread and make a nice clothing for the rocks. 1 to 12 inches; June to September.

SILENE ALPESTRIS, white, and S. Schafta, rosy-pink, are very desirable and showy. 6 inches; June to September.

STATICE in variety. These have mostly branching heads of blue and pink flowers, and are very light and elegant. 6 to 24 inches; June to October.

THYMUS SERPYLLUM, T. lanuginosus, and T. montana form useful carpets of green and silvery foliage, with rose, red and white flowers. 3 inches. June to August.

TUNICA SAXIFRAGA produces myriads of pink coloured flowers. 6 inches. June to September.

VERONICA INCANA, blue; V. maritima, pink; V. prostrata, blue; V. repens, blue and white; V. rupestris, blue, and V. spicata, and its white variety. 3 to 12 inches. May to October.

PLANTS SUITABLE FOR MASSING TO GROW IN SHADY POSITIONS, IN ORDINARY LOAM AND CHIPPINGS.

ADONIS AMURENSIS, A. pyrenaica, and A. vernalis, yellow flowers, with fern-like foliage. 9 to 15 inches. February to June.

ANEMONE ALPINA, A. apennina, A. blanda, A. nemorosa, and A. Robinsoniana are all blue ; A. memorosa alba plena, A. sylvestris, and its double, white form. 3 to 6 inches. February to June.

ASTER ALPINUS and its varieties, blue, red, and white. 6 to 9 inches. May to June.

ARMERIA ALPINA, A. cephalotes rubra and A. plantaginea, and their varieties, red and white. 3 to 12 inches. April to September.

CAMPANULA HENDERSONII, and C. turbinata and its varieties, blue and white. 3 to 12 inches. June to October.

CERATOSTIGMA PLUMBAGINOIDES, bright blue. 6 inches. September to November.

CYCLAMEN in variety, white, rose and red. 3 to 6 inches. February to October.

DODECATHEON in variety, white, rose, and purple, with conspicuous centres. 6 to 18 inches. May to July.

EPIMEDIUM in variety, white, lilac, red, and yellow, with beautiful tinted foliage. 6 to 12 inches. April to July.

HEPATICAS in variety, red, white, and blue. 3 to 6 inches. March to May.

IRIS, dwarf species in variety, blue, yellow, and white 3 to 12 inches. March to June.

MYOSOTIS in variety, blue. 3 to 9 inches. April to October

OMPHALODES VERNA and its white variety. 6 inches. March to May.

PLATYCODON MARIESII and its varieties, blue and white. 6 to 12 inches. August to September.

POLEMONIUM REPTANS, blue. 9 inches. June to August.

POLYGONUM BRUNONIS, and P. vaccinifolium, rosy-pink. 9 inches. August to October.

PRIMULA ACAULIS, and P. auricula and its varieties, yellow, blue, pink, and red. 3 to 6 inches. March to May.

BULBS AND SPRING FLOWERS IN BOG AND WATER GARDEN.

SAXIFRAGA GRANULATA FL. PL., double white, S. umbrosa (London Pride), and S. crenatum and its varieties, single rose and white. Most of the varieties in the mossy section should also be grown. 3 to 15 inches. March to July.

THALICTRUM ADIANTIFOLIUM, and T. minus, white, with foliage resembling a Maidenhair Fern. 6 to 9 inches. June to July.

TIARELLA CORDIFOLIA, with creamy white flowers, and beautiful veined foliage. 12 inches. April to June.

PLANTS REQUIRING A MOIST, SUNNY POSITION.

Anemone pulsatilla.*
Arnica montana.*
Azalea amœna.
,, procumbens.
Campanula cenisia.*
Cardamine in variety.
Cyananthus lobatus.*
Dondia epipactus.
Dryas octopetala.
Gentiana asclepiadea.*
,, bavarica.
,, Pneumonanthe.
Linaria alpina.
,, cymbalaria.
Nierembergia rivularis.
Parnassia palustris.
Primula farinosa.*
,, rosea.
Rubus arcticus.
,, cissoides V. purpuratus
Sanguinaria canadensis.
Sarracenia purpurea.*
Soldanellas in variety.*
Trollius europæus.

A SELECTION OF PLANTS REQUIRING LIMESTONE.

Acantholimon venustum.*
Achillea argentea.*
,, rupestris.
Æthionema cordifolium.*
,, grandiflorum.
,, jucunda.
Alyssum alpestre.*
,, argenteum.
Androsace in variety.*
Anthyllis montana.
Antirrhinum Asarina.*
,, glutinosum.
,, sempervivens.
Artemisia pedemontana.
Cerastium Biebersteini.
Coronilla cappadocica.
Dianthus in variety.*
Draba aizoides.
Dryas octopetala.
Erodium guttatum.

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* See cultural notes.

A SELECTION OF PLANTS REQUIRING LIMESTONE—continued.

Genista pilosa.
Gentiana, various kinds.*
Geranium argenteum.*
,, ibericum.
Gnaphalium himalayanum.*
,, Leontopodium.
Hippocrepis comosa.*
Hutchinsia alpina.
Linum salsoloides.
Lithospermum Gastoni.*
Opuntia Raffinesquiana.
,, camanchica.
,, rhodantha.
,, Xanthosema.
Oxytropsis campestris.
Phyteuma comosum.*
Primula auricula marginata.*
,, marginata.
,, viscosa.
Primula viscosa nivalis.
Saxifraga aizoon.*
,, ,, rosea.
,, cæsia.
,, cochlearis.
,, lantoscana.
,, longifolia.
,, rosularis.
,, squarrosa.
,, vera.
,, valdensis.
Sedum dasyphyllum.
,, obtusatum.
,, spathulifolium.
Sempervivum arachnoideum.
,, Laggeri.
,, wulfeni.
Veronica saxatilis.

PLANTS REQUIRING PEAT AND A MOIST, SHADY POSITION.

Cornus Canadensis.
Cortusa Matthioli.*
Cypripedium in variety.*
Daphne blagayana.*
,, Cneorum.
Eomecon chionantha.*
Epigæa repens.*
Galax aphylla.
Gaultheria in variety.*
Haberlea rhodopensis.*
Horminum pyrenaicum.
Linnæa borealis.*
Ourisia coccinea.
Primula japonica in variety.*
,, sikkimensis.
Pyrola rotundifolia.
Ramondia in variety.*
Rhexia virginica.
Shortia galacifolia.*
,, uniflora.

PLANTS SUITABLE FOR GROWING UNDER THE SHADE OF TREES, ETC.

Acæna Sanguisorbæ.
Ajuga in variety.
Anemone apennina.*
,, blanda, nemorosa, etc.

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* See cultural notes.

PLANTS SUITABLE FOR GROWING UNDER THE SHADE OF TREES ETC.—continued.

Asarum Europœum.
Asperula odorata and hexaphylla.
Astrantia in variety.
Campanula latifolia and C. macrantha.
Cardamine in variety.
Corydalis in variety.
Cyclamen in variety.*
Cypripedium, various kinds.*
Dodecatheon in variety.
Eomecon chionantha.*
Epimedium in variety.
Euphorbia in variety.
Ferns in variety.
Funkia in variety.
Gaultheria in variety.
Helleborus in variety.
Hepatica in variety.
Horminum pyrenaicum.
Lysimachia nummularia.
Lythrum in variety.
Meconopsis cambrica and varieties.*
Megasea cordifolia.
Podophyllum Emodi.
Polygonum Brunonis.
Pulmonaria sibirica.
Saxifraga umbrosa varieties.
Sedum spurium.
Symphytum in variety.
Thalictrum in variety.
Tiarella cordifolia.
Trillium grandiflorum.
Tussilago Farfara.
Vinca in variety.
Waldsteinia trifolia.

A SELECTION OF PLANTS SUITABLE FOR DROOPING OVER ROCKS, ETC.

Acæna in variety.
Alyssum saxatile and its varieties.
Antirrhinum in variety.
Arabis in variety.
Arenaria grandiflora.
,, montana.
Aubrietia in variety.
Callirhoe involucrata.
Campanula cæspitosa.
,, garganica.
,, ,, hirsuta.
,, muralis.
,, turbinata.
Cerastium Biebersteinii,
,, tomentosum.
Ceratostigma plumbaginoides.
Coronilla cappadocica.
,, rosea.
Dianthus arenarius.
,, cæsius.
,, deltoides.
,, ,, alba.
,, fimbriatus.
,, plumarius.
Erodium in variety.
Geranium in variety.
Gypsophila cerastoides.

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* See cultural notes.

A SELECTION OF PLANTS SUITABLE FOR DROOPING OVER ROCKS, ETC.—continued.

Gypsophila prostrata.
,, repens.
Helianthemum in variety.
Hippocrepis comosa.
Iberis in variety.
Linaria cymbalaria.
,, pallida.
Lippia repens.
Lithospermum prostratum.
,, purpureo—cæruleum.
Lotus corniculatus.
Lysimachia nummularia.
,, ,, aurea.
Muehlenbeckia complexa.
,, nana.
Œnothera marginata
,, macrocarpa.
,, taraxacifolia.
Omphalodes verna.
Phlox procumbens.
,, reptans, and P. subulata in variety.
Polygonium Brunonis.
,, sphærostachyum.
,, vaccinifolium.
Potentilla alba.
,, alpestris.
Potentilla ambigua.
,, formosa.
,, Hopwoodiana.
,, nitida.
Santolina alpina.
,, incana.
Saponaria ocymoides.
,, ,, splendens.
Saxifraga, most of the many varieties.
Sedum spurium and its varieties.
Silene alpestris.
,, Schafta.
Tetragonolobus siliquosus.
Thymus lanuginosus.
,, serpyllum.
,, ,, album.
,, ,, coccineum.
Tunica Saxifraga, and its double variety.
Veronica prostrata.
,, rupestris.
Vinca in variety.
Zauschneria californica.
,, ,, Mexicana.
,, ,, splendens.

PLANTS, MOSTLY WITH SILVERY OR GREY FOLIAGE, SUITABLE FOR WALL GARDENING, ETC.

Acæna argentea.
,, Novæ Zealandiæ.
Achillea argentea, A. Clavennæ, A. Huteri, A. rupestris and A. Sericea.*
Alyssum argenteum and A. saxatile and its varieties.*
Androsaces in variety.*
Anthemis Aizoon and A. Biebersteini.

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* See cultural notes.

PLANTS, MOSTLY [illegible]H SILVERY OR GREY FOLIAGE, SUITABLE FOR WALL GARDENING, ETC.—continued.

Anthyllis montana.
Arabis in variety.
Arenaria montana.
Artemisia pedemontana.
,, stellariana.
Aubrietia in variety.
Campanula garganica, C. hirsuta, C. rotundifolia and C. r. alba.*
Cerastium in variety.
Dianthus, nearly all in variety.*
Erigeron mucronatus.
Erinus alpinus, E. A. albus, and E. A. carmineus.
Geranium, in variety.*
Gnaphalium leontopodium.*
Gypsophila cerastioides, G. prostrata, and G. repens.
Santolina alpina and S. incana.
Saponaria ocymoides and S· splendens.
Saxifraga, most of the encrusted varieties, especially S. longifolia and S. Cotyledon and its varieties.*
Sedum in variety.
Sempervivum in variety.
Silene acaulis and its varieties, and S. alpestris and S. Schafta.*
Thymus lanuginosus, T. Serpyllum and its varieties.
Tunica Saxifraga.
Veronica rupestris and V. prostrata.
Zauschneria Californica, Z. C. Mexicana, and Z. splendens.

A SELECTION OF BULBOUS PLANTS SUITABLE FOR THE ROCK GARDEN.

Allium cyaneum.
,, Moly.
,, neapolitanum.
Anemone such as apennina and A. fulgens in variety.
Anomatheca cruenta.
Alchemilla alpina.
,, pubescens.
Brodiæa coccinea.
,, congesta.
,, grandiflora.
Calochortus in variety.
Chionodoxa in variety.
Colchicum autumnale.
,, cilicicum.
Colchicum libanoticum.
,, luteum.
Crocus in variety.
Erythronium in variety.
Fritillaria meleagris.
,, pallidiflora and other varieties.
Galanthus in variety.
Iris in variety, especially the small varieties.
Ixia in variety.
Leucojum Æstivum.
,, autumnale.
,, vernum.
,, trichophyllum.

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* See cultural notes.

A SELECTION OF BULBOUS PLANTS SUIT[illegible] FOR THE ROCK GARDEN—continued.

Muscari in variety.
Narcissus in variety, especially small varieties, such as N. cyclamineus, N. minimus and N. triandus.
Ophrys and Orchis in variety.
Ornithogalum in variety.
Pucshkinia scilloides.
Scilla in variety.
Sternbergia lutea.
,, macrantha.
Tecophilæa cyanocrocus.*
Trillium erectum.
,, grandiflorum.
,, stylosum.
Triteleia uniflora.
Tulipa Greigi.
,, Kaufmanniana.
,, Lownei.
,, Ostrowskiana.
,, præstans.

PLANTS SUITABLE FOR BOG, MARSH, OR MARGINS OF STREAMS.

Acorus Calamus, and A. variegata.
Anagallis tenella.
Arundo donax, only in warm districts, hardier on dry places in cold districts.
Arundo phragmites variegata.
Caltha palustris, and its double form.
Caltha polypetala.
Cardamine in variety.
Carex in variety.
Comarum palustre.
Cyperus longus.
Gentiana pneumonanthe.
Geum rivale.
Glyceria aquatica variegata.
Gunnera manicata.
,, scabra.
Iris Kæmpferi in variety.
,, Pseud-acorus, and fol. var.
Lobelia in variety.
Lythrum Salicaria rosea.
Lysimachia in variety.
Menyanthes trifoliata.
Mimulus luteus.
Myosotis palustris.
Narthecium ossafragum.
Osmunda regalis.
Parnassia palustris.
Peltandra virginica.
Poa aquatica variegata.
Polygonum sachalinense, and P. Sieboldi.
Primula denticulata, P. japonica, P. rosea, and its varieties, and P. Sikkimensis.*
Rodgersia pinnata.
,, podophylla.
Rubus arcticus.
Sarracenia purpurea.*
Saxifraga granulata plena, S. peltata.*
Spiræa Aruncus, S. gigantea, S. palmata, S. ulmaria, and S. venusta.
Thalictrum flavum, T. glaucum, and T. aquiligæfolium.
Tradescantia in variety.
Trollius europæus.

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* See cultural notes.

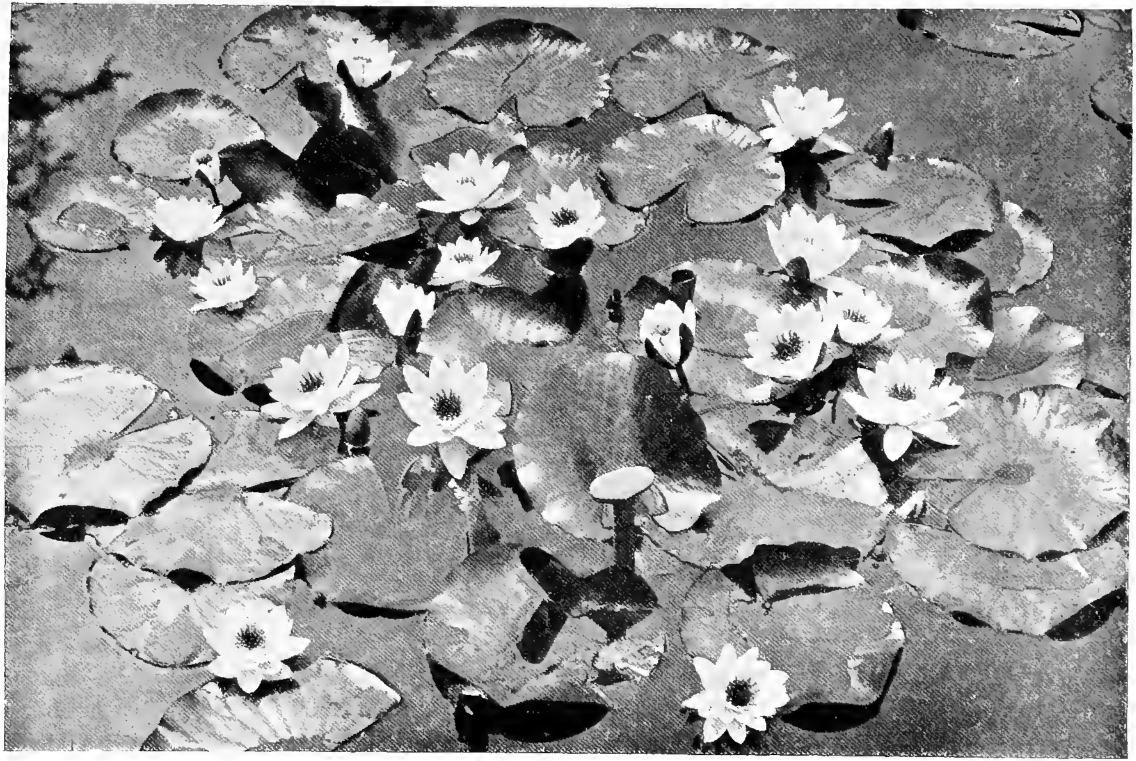
HARDY AQUATIC, OR WATER PLANTS.

Acorus Calamus.
,, japonicus.
Alisma natans.
,, plantago.
Aponogeton distachyon.
Butomus umbellatus.
Calla palustris.
Carex Pseudo Cyperus.
Cyperus longus.
Hottonia palustris.
Hydrocharis Morsus Ranæ.
Juncus (Scirpus) Zebrinus.
Lysimachia vulgaris.
Lythrum salicaria roseum.
Menyanthes trifoliata.
Nuphar luteum.
Nymphæas in variety.
Orontium aquaticum.
Peltandra virginica.
Pontederia cordata.
Ranunculus aquatilis.
,, lingua.
,, ,, grandiflora.
Rumex hydrolapathum.
Sagittaria japonica plena
,, sagittifolia.
Scirpus lacustris.
,, maritimus.
Sparghanum ramosum.
,, simplex.
Stratioites aloides.
Typha augustifolia.
,, latifolia.
,, minima.
Villarsia nymphæoides.

NYMPHÆAS IN VARIETY.

Nymphæa Alba.
,, ,, Candidissima.
,, Aurora.
,, Candida.
,, Caroliniana.
,, Colossea.
,, Ellisiana.
,, Frœbelli.
,, Gladstoniana.
,, Gloriosa.
,, James Brydon.
,, Laydeckeri Fulgens. †
,, ,, Purpurata.
,, ,, Rosea.
,, Marliacea Albida.
,, ,, Carnea.
,, ,, Chromotella.
,, ,, Flammea.
Nymphæa Marliacea Ignea.
,, ,, Rosea.
,, ,,Rubra Punctata
,, Odorata Alba.
,, ,, Exquisite.
,, ,, Minor. †
,, ,, Rosea.
,, ,, Sulphurea.
,, Pygmœa Alba. †
,, ,, Helveola. †
,, Robinsoni.
,, Sanguinea.
,, Seignoureti. †
,, Tuberosa Rosea.
,, Richardsoni.
,, W. Doogue.
,, W. Falconer.

Those marked thus † are the best for very shallow water and tubs.



NYMPHÆA MARLIACEA ROSEA.

A SELECTION OF HARDY FERNS SUITABLE FOR SHADY NOOKS AND WALKS.

Adiantum capillus veneris.
,, pedatum.
Asplenium adiantum nigrum.
,, angustifolium.
,, ebeneum.
,, marinum.
,, ruta muraria.
,, Trichomanes.
,, viride.
Athyrium filix-fœmina (Lady Fern).
Cetarach officinarum.
Cystopteris alpina.
,, fragilis.
,, montana.
Lastræa cristata.
,, filix-mas (Male Fern).
,, Goldiana.
,, marginalis.
,, novaboracensis.
,, recurva.
Osmunda cinnamomea.
,, Claytoniana.
,, gracilis.
,, palustris.
Osmunda regalis (Royal Fern).
Polypodium cambricum.
,, Dryopteris (Oak Fern).
,, Robertianum.
,, vulgare.
,, ,, glomerata.
Polystichum acrostichoides.
,, aculeatum.
,, angulare.
,, ,, proliferum.
Scolopendrium vulgare (Hart's Tongue)
,, vulgare Baxteri.
,, ,, crispum.
,, ,, lutescens.
Struthiopteris germanica.
,, pennsylvanica.
Woodsia alpina.
,, ilvensis.
,, obtusa.
,, polystichoides.
Woodwardia aspera.
,, japonica.
,, virginica.

ORNAMENTAL PLANTS, RUSHES, ETC., WHICH CAN BE USED WITH GREAT ADVANTAGE CLOSE TO AN ALPINE OR ROCK GARDEN.

Apera arundinacea.
Arundo Donax.
Bambusa in variety.
Carex elegantissima, C. riparia and C. r. variegata.
Cyperus longus.
Dactylis glomerata elegantissima.
Elymus arenarius.
Eulalia gracillima, E. japonica, E. j. variegata, and E. j. zebrina.
Festuca glauca.
Gunnera manicata and G. scabra
Gynerium argenteum.
,, ,, roseum.

ORNAMENTAL PLANTS, RUSHES, ETC.—continued.

Phalaris arundinacea variegata.
Scirpus lacustris.
Spiræa Aruncus.
,, ,, gigantea.
,, ,, venusta.

Tritomas in variety; these are especially useful for planting in conjunction with Gyneriums.
Yucca filamentosa, Y. gloriosa, and Y. recurvifolia.

A SELECTION OF CONIFERÆ, MOSTLY SMALL AND OF SLOW GROWTH SUITABLE FOR THE ROCK GARDEN.

Abies excelsa Barryi.
,, ,, Clanbrasiliana.
,, ,, conica.
,, ,, crassifolia.
,, ,, dumosa.
,, ,, Ellwangeriana.
,, ,, Gregoriana.
,, ,, nana.
,, ,, parviformis.
,, ,, pumila.
,, ,, glauca.
,, ,, nigra.
,, ,, pygmæa.
,, ,, Remonti.
Cupressus Lawsoniana alba spica nana.
,, ,, erecta viridis and argenteo-variegata.
,, ,, globosa.
,, ,, minima glauca.
,, ,, nana.
,, ,, Shawii.
,, nootkatensis compacta nana.
Juniperus communis aurea.
,, ,, hibernica.

Juniperus japonica aurea nana.
,, recurva (pendula).
,, ,, squamata.
,, sabina.
,, ,, fol. variegata.
,, prostrata.
,, tamariscifolia.
,, tripartitia.
Pinus excelsa
,, sylvestris globosa.
,, ,, pygmæa.
Retinospora ericoides.
,, filicoides.
,, filifera aurea.
,, lycopodioides.
,, microphylla.
,, obtusa nana.
,, ,, aurea.
,, ,, pygmæa.
Thuia occidentalis globosa Frœbelli.
,, ,, Hoveyi.
,, ,, recurva.
,, ,, umbraculifera.
Thujopsis dolabrata.
,, ,, aurea.
,, lætevirens.

A SELECTION OF TREES AND SHRUBS, MOSTLY FLOWERING, SUITABLE FOR THE ROCK GARDEN.

Andromeda calyculata nana.
,, floribunda.
,, paniculata.
,, speciosa.
Azalea amœna.
,, procumbens.
Berberis dulcis nana.
,, stenophylla.
,, Darwinii.
Choisya ternata.
Cistus crispus.
,, purpureus.
,, rosmarinifolius.
Cotoneaster congesta.
,, horizontalis.
,, microphylla.
,, thymifolia.
,, Wheeleri.
Cratægus Lælandi.
Cytisus Kewensis.
,, purpureus.
,, ,, albus.
,, Schipkænsis.
,, Scoparius Andreanus.
Daphne Blagayana.*
,, Cneorum.
,, Fioniana.
,, Mezereum.
,, ,, alba.
Diplopappus chrysophyllus.
Ericas (hardy kinds).
Gaultheria procumbens.*
,, Shallon.
Genista hispanica.
,, præcox.
,, sagittalis.
,, tinctoria plena.
Hypericum calycinum.
,, Moserianum.
,, patulum.
Kalmia angustifolia.
,, ,, rubra.
,, glauca.
,, latifolia.
Ledum Lyonii.
,, palustre.
Philadelphus microphyllus.
,, Lemoinei.
Polygonum compactum.
,, vaccinifolium.
Rhododendron arbutifolium.
,, ferrugineum.
,, ,, hirsutum.
,, imbricatum.
,, præcox.
Rosa rugosa in variety.
Spiræa arguta multiflora.
,, ,, Bumalda.
,, ,, Anthony Waterer.
,, Fortunei alba.
,, Thunbergii.
Ulex europæa flore pleno.
Vaccinium Vitis Idæa.
Veronica—New Zealand and shrubby kinds.*
Veronica Andersonii.
,, anomala.
,, Autumn Glory.
,, Blue gem.
,, buxifolia.
,, carnosula.
,, cupressoides.
,, Hectori.
,, pinguifolia.

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* See cultural notes.

A SELECTION OF ROCK AND ALPINE PLANTS, ETC., WHICH MAY BE EASILY RAISED FROM SEED.

Æthionema in variety.
Alyssum in variety.
Anemone in variety.
Antirrhinum in variety.
Aquilegia alpina and varieties.
Arabis in variety.
Arenaria montana, etc.
Aster alpinus and varieties.
Astragalus in variety.
Callirhoe involucrata.
Campanula in variety.
Cerastium Biebersteinii.
,, tomentosum.
Chieranthus alpinus.
Coronilla ibericum.
,, rosea.
Corydalis in variety.
Crucianella stylosa.
Dianthus in variety.
Draba in variety.
Erigeron in variety.
Erinus alpinus.
Erysimum pulchellum.
,, rupestris.
Geranium in variety.
Geum in variety.
Globularia in variety.
Gnaphalium leontopodium.
Gypsophila in variety.
Helianthemum in variety.
Heuchera sanguinea and varieties.
Hutchinsia alpina.
Iberis in variety.
Linaria alpina.
Linaria cymbalaria.
,, hepaticæfolia.
,, pallida.
Linum in variety.
Lippia repens.
Lychnis in variety.
Meconopsis in variety.
Michauxia campanuloides.
Mimulus cupreus.
Myosotis in variety.
Œnothera in variety.
Ononis in variety.
Oxytropis campestris.
Papaver alpinum.
,, nudicaule.
Phyteuma orbiculare.
Platycodon in variety.
Polemonium confertum.
,, reptans.
Potentilla in variety.
Primula in variety.
Saponaria ocymoides.
,, ,, splendens.
Saxifraga, most varieties.
Scutellaria alpina.
Silene in variety.
Statice in variety.
Tetragonolobus siliquosus.
Tunica saxifraga.
Verbena venosa.
Viola alpina.
,, biflora.
,, cornuta.
,, pedata.
Vittadenia triloba.

PLANTS SUITABLE TO FORM “CUSHIONS” AND “CARPETS,” MOST OF WHICH ARE EVERGREEN.

Acæna argentea.
,, Buchanani.
,, Novæ Zealandiæ.
Ajuga in variety.
Alsine Rosani.
Antennaria dioica.
,, tomentosa.
Arabis in variety.
Arenaria in variety, especially A. balearica, which grows on the face of the rock, in any partially shaded aspect, producing myriads of snowy-white blossoms.
Aubrietia in variety.
Cerastium in variety.
Dianthus cæsius.
,, deltoides.
,, ,, albus.
Draba in variety.*
Dryas in variety.
Gypsophila cerastoides.
,, prostrata.
,, repens.
Herniaria glabra.
Houstonia in variety.
Hutchinsia alpina.
Iberis in variety, especially I. Little Gem.
Linaria cymbalaria.
Linaria hepaticæfolia.
,, pallida.
Lippia repens.
Lychnis alpina.
Lysimachia nummularia.
,, ,, aurea.
Omphalodes verna and O. alba.
Phlox amœna, P. setacea and P. subulata and its varieties.
Potentilla alba.
,, ambigua.
,, aurea.
,, nitida.
Saponaria cæspitosa
,, ocymoides.
,, ,, splendens.
Saxifragas, most of the small encrusted varieties, after the aizoon type, and the mossy section in variety.
Sedums, nearly all in variety.
Sempervivums, all in variety.
Silene in variety.*
Thymus in variety.
Tunica Saxifraga.
Veronica repens.
,, rupestris.
,, prostrata.
Waldsteinia trifoliata.

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* See cultural notes.

LIST OF OLD ENGLISH AND POPULAR

Names of Plants, suitable for Rock, Alpine, Wall, Bog, and Water Gardening, with their Botanical References, Pronunciations and most suitable soil, &c.

Old English or Popular Name.	Latin or Botanical Name	Pronunciation.	Soil, &c.
Aaron's Beard	Hypericum ...	Hi-per-i-kum......	Ordinary.
Adam's Needle....	Yucca........	Yuk-ka	Ordinary.
Adderwort	Polygonum ...	Po-lig-o-num	Ordinary.
Alpine Coltsfoot...	Homogyne....	Ho-mo-gine	Ordinary.
Alpine Comfrey ..	Onosma	On-oz-ma.........	Sandy loam & peat, sunny position, *see* Cultural Notes, p. 60.
Alum Root	Heuchera	Hoi-ker-a	Ordinary.
Apple Mint	Mentha	Men-tha	Sandy.
Arrow Head	Sagittaria ...	Sag-it-tar-i-a	Water garden, *see* p. 80.
Avens	Geum	Je-um............	Ordinary.
Balloon Flower ...	Platycodon ...	Plat-i-ko-don	Ordinary.
Barrenwort.......	Epimedium ..	Ep-i-me-di-um	Ordinary.
Bee Orchis	Ophrys	Of-ris	Loam, bog.
Bell Flower.......	Campanula ...	Kam-pan-u-la	Ordinary.
Bell Wort	Uvularia	U-vu-lar-i-a	Loam.
Bird's Foot Trefoil	Lotus	Lo-tus	Ordinary.
Bitter Root	Lewisia	Lew-is-i-a	Sandy loam & grit, sunny position, *see* Cultural Notes, p. 57.
Bloodroot	Sanguinaria ..	San-gui-nar-i-a ...	Sandy loam, shady aspect.
Blue Moneywort ..	Soldanella	Sol-da-nel-la	Gritty loam & peat, partial shade, *see* Cultural Notes, p. 68.
Bog Bean	Menyanthes...	Men-i-an-thez	Bog or water garden.
Buck Bean	Villarsia	Vil-lar-si-a	Water garden.
Bugle Flower	Ajuga	A-ju-ga	Ordinary.
Butterfly Orchis ..	Habenaria ...	Hab-en-ar-i-a	Marsh or bog.
Caffre Lily	Schizostylis ..	Schiz-o-sti-lis	Sandy, moist, shady position.
Calamint	Calamintha ..	Kal-a-minth-a.....	Sandy.
Californian Cowslip	Dodecatheon..	Do-de-kath-e-on ..	Ordinary, partially shady.
Campion	Lychnis	Lik-nis	Ordinary.
Cape Pond Weed ..	Aponogeton...	Ap-o-no-ge-ton ...	Water garden, *see* p. 80.
Carpenter's Leaf ..	Galax	Ga-lax	Peat & shade, *see* Cultural Notes, p. 54.
Catchfly	Silene	Si-le-ne...........	Gritty loam.
Centaury.........	Erythræa	E-rith-re-a	Moist loam.
Chalk Plant	Gypsophila ...	Gip-sof-il-a	Ordinary.
Chamomile	Anthemis	An-them-is	Ordinary.
Cheddar Pink	Dianthus cæsius	Di-an-thus sez-i-us	Grit & sunny aspect, *see* Cultural Notes, p. 52.
Chilian Rhubarb ..	Gunnera......	Gun-ner-a	Ordinary, moist position.
Christmas Rose ...	Helleborus niger	Hel-leb-or-us ni-ger.........	Rich loam, partial shade.
Cinquefoil	Potentilla ...	Po-ten-til-la	Alpine varieties, lovers of limestone, *see* Cultural Notes, p. 61.
Coat Flower	Tunica	Tu-ni-ka	Ordinary.
Columbine	Aquilegia	Ak-wi-lej-i-a	Ordinary loam.

Old English or Popular Name.	Latin or Botanical Name	Pronunciation.	Soil, &c.
Comfrey	Symphytum	Sim-fit-um	Ordinary loam.
Coral Plant	Nertera	Ner-ter-a	Sandy loam & peat, sheltered.
Corfu Lily	Funkia	Funk-i-a	Ordinary, moist position.
Corinthian Figwort	Wulfenia	Wul-fe-ni-a	Loam & peat, shade
Cornish Moneywort	Sibthorpia	Sib-thorp-i-a	Sandy loam.
Cotton Lavender	Santolina	San-to-li-na	Ordinary loam, sunny aspect.
Cotton Weed	Antennaria	An-ten-nar-i-a	Ordinary.
Crane's Bill	Geranium	Jer-a-ni-um	Ordinary.
Creeping Jenny	Lysimachia	Lis-i-mak-i-a	Moist loam.
Crimson Leaf	Shortia	Shor-ti-a	Loam & peat, *see* Cultural Notes, p. 67.
Crosswort	Crucianella	Kru-si-an-el-la	Ordinary.
Crowfoot	Ranunculus	Ra-nun-ku-lus	Ordinary, *see* Cultural Notes, p. 64.
Crown Vetch	Coronilla	Kor-o-nil-la	Ordinary.
Cuban Lily	Scilla	Sil-la	Sandy.
Cuckoo Bread	Oxalis	Ox-al-is	Sandy loam, *see* Cultural Notes, p. 60.
Cuckoo Flower	Cardamine	Kar-dam-i-ne	Moist loam.
Cudweed	Gnaphalium	Na-fa-li-um	Sandy loam.
Cup Flower	Nierembergia	Ne-rem-ber-gi-a	Moist.
Cyclamen Poppy	Eomecon	E-om-e-con	Sandy loam & peat, shade.
Daisy	Bellis	Bel-lis	Ordinary.
Daisy Bush	Olearia	Ol-e-ari-a	Ordinary.
Dead Nettle	Lamium	La-mi-um	Ordinary.
Deerwort	Mitchella	Mitch-el-la	Sandy loam & peat, shade, *see* Cultural Notes, p. 58.
Dogwood	Cornus	Kor-nus	Peat, shade.
Duck's Foot	Podophyllum	Pod-o-fil-lum	Moist loam & peat, shade.
Edelweiss	Leontopodium	Lē-on-to-pod-i-um	Sandy loam & limestone, *see* Cultural Notes, p. 56.
Evening Primrose	Œnothera	E-no-the-ra	Ordinary.
False Daisy	Bellium	Bel-li-um	Ordinary.
Flag	Iris	I-ris	Ordinary loam and position; a moist position suits such as I. Kæmpferi best.
Flax	Linum	Li-num	Ordinary loam.
Foam Flower	Tiarella	Ti-a-rel-la	Ordinary.
Forget-me-not	Myosotis	Mi-o-sò-tis	Moist loam.
Fumitory	Corydalis	Kor-id-a-lis	Ordinary.
Gentianella	Gentiana	Jen-shi-a-na	Various, *see* Cultural Notes, p. 54.
Germander	Teucrium	Teu-cri-um	Ordinary.
Globe Daisy	Globularia	Glob-u-lar-i-a	Ordinary.
Globe Flower	Trollius	Trol-li-us	Moist loam.
Glory of the Snow	Chionodoxa	Ki-on-o-dox-a	Sandy loam.
Gold Dust	Alyssum	Al-is-sum	A saxatile & its varieties; ordinary; others *see* Cultural Notes, p. 47.
Golden Drop	Onosma	On-oz-ma	Sandy loam & peat, *see* Cultural Notes, p. 60.
Golden Knee	Chrysogonum	Kris-og-on-um	Loam, moist position.
Grape Hyacinth	Muscaria	Mus-kar-i	Sandy loam.
Gromwell	Lithospermum	Lith-o-sper-mum	Sandy loam & peat, *see* Cultural Notes, p. 57.
Ground Ivy	Glechoma	Glek-o-ma	Ordinary.

Old English or Popular Name.	Latin or Botanical Name	Pronunciation.	Soil, &c.
Harebell	Campanula	Kam-pan-u-la	Sandy loam, *see* Cultural Notes, p. 50.
Hawkweed	Hieraceum	Hi-er-a-si-um	Ordinary.
Hazelwort	Asarum	As-ar-um	Ordinary loam, shade.
Heaths	Erica	E-ri-ka	Sandy, peat & heath soils.
Herb Bennet	Dryas	Dri-as	Sandy loam & peat.
Heron's Bill	Erodium	E-ro-di-um	Gritty loam.
Himalayan May Apple	Podophyllum	Pod-o-fil-lum	Moist loam, shade.
Horned Rampion	Phyteuma	Fi-tu-ma	Sandy loam & grit, *see* Cultural Notes, p. 61.
Horseshoe Vetch	Hippocrepis	Hip-po-kre-pis	Sandy loam.
Houseleek	Sempervivum	Sem-per-vi-vum	Stiff loam & mortar rubble.
Humming Bird Trumpet	Zauschneria	Zaush-ner-i-a	Ordinary loam, dry position.
Huntsman's Horn	Sarracenia	Sar-ra-se-ni-a	Peat, moist sunny position, *see* Cultural Notes, p. 66.
Iceland Poppies	Papaver nudicaule	Pa-pa-ver nud-e-kau-le	Ordinary, *see* Cultural Notes, p. 60.
Iron Weed	Vernonia	Ver-no-ni-a	Loam.
Jacob's Ladder	Polemonium	Pol-e-mo-ni-num	Ordinary.
Japanese Foam Flower	Tanakea	Tan-a-ke-a	Loam & peat, shade.
Japanese Primrose	Primula japonica	Prim-u-la ja-pon-ic-a	Ordinary moist loam, *see* Cultural Notes, p. 61.
Japanese Rush	Eulalia	U-lay-li-a	Ordinary.
Japan Toad Lily	Tricyrtis	Tri-sir-tis	Sandy loam.
Jerusalem Sage	Phlomis	Flo-mis	Ordinary.
Kenilworth Ivy	Linaria Cymbalaria	Li-nar-i-a sim-ba-lar-i-a	Ordinary gritty loam.
Kidney Vetch	Anthyllis	An-thil-lis	Ordinary.
King Cup	Caltha	Kal-tha	Moist loam.
Knotweed	Polygonum	Po-lig-o-num	Moist loam.
Lady's Mantle	Alchemilla	Al-ke-mil-la	Ordinary.
Lady's Slipper	Cypripedium	Sip-ri-pe-di-um	Loam & peat, *see* Cultural Notes, p. 51.
Lady's Smock	Cardamine	Kar-dam-i-ne	Moist loam.
Lamb's Skin	Arnica montana	Ar-ni-ka mon-ta-na	*See* Cultural Notes, p. 50.
Lamb's Tongue	Stachys lanata	Stak-is lan-a-ta	Ordinary.
Leadwort	Plumbago	Plum-ba-go	Ordinary.
London Pride	Saxifraga umbrosa	Sax-i-fra-ga um-bro-sa	Ordinary, *see* Cultural Notes, p. 66.
Loosestrife	Lysimachia	Lis-i-mak-i-a	Moist ordinary.
Lungwort	Pulmonaria	Pul-mo-nar-i-a	Ordinary loam.
Madwort	Alyssum	Al-is-sum	A saxatile & its varieties; ordinary; others *see* Cultural Notes, p. 47.
Maiden's Pink	Dianthus deltoides	Di-an-thus del-toid-es	Ordinary, for other varieties *see* Cultural Notes, p. 52.
Marsh Marigold	Caltha	Kal-tha	Moist ordinary loam.
Masterwort	Hacquetia	Hac-ket-i-a	Moist loam.
May Flower	Epigæa	Ep-i-ge-a	Loam & peat, *see* Cultural Notes, p. 53.
Meadow Rue	Thalictrum	Tha-lik-trum	Ordinary.
Mediterranean Cress	Morisia	Mor-is-i-a	Sandy loam & grit.

Old English or Popular Name	Latin or Botanical Name	Pronunciation.	Soil, &c.
Milfoil	Achillea	A-kil-le-a	Ordinary loam.
Milk Vetch	Astragalus	As-trag-al-us	Rich loam & grit.
Milk-wort	Polygala	Po-lig-a-la	Moist peat & loam.
Moneyleaf	Soldanella	Sol-da-nel-la	Gritty loam & peat, *see* Cultural Notes, p. 68.
Moneywort	Lysimachia	Lis-i-mak-i-a	Moist loam.
Monkey Flower	Mimulus	Mim-u-lus	Moist loam, partial shade.
Mouse Ear	Cerastium	Ser-as-ti-um	Ordinary loam.
Mountain Avens	Dryas	Dri-as	Sandy loam & peat.
Mountain Thyme	Thymus montanus	Ti-mus mon-ta-nus	Sandy loam.
Myrtle Sedge	Acorus calamus	Ak-or-us kal-a-mus	Moist loam.
New Holland Violet	Erpetion	Er-pet-ion	Moist gritty loam.
New Zealand Bur	Acæna	A-se-na	Sandy.
Oyster Plant	Mertensia	Mer-ten-si-a	Deep loam.
Pampas Grass	Gynerium	Gi-ne-ri-um	Ordinary loam.
Partridge Berry	Gaultheria	Gaul-te-ri-a	Moist peat, *see* Cultural Notes p. 54.
Pasque Flower	Anemone pulsatilla	An-em-on-ne pul-sa-til-a	*See* Cultural Notes, p. 48.
Pearl Berry	Margyricarpus	Mar-gir-i-kar-pus	Sandy loam.
Perennial Candytuft	Iberis	I-ber-is	Ordinary.
Periwinkle	Vinca	Vin-ka	Ordinary.
Pincushion Flower	Scabiosa	Ska-bi-o-sa	Sandy loam.
Pink	Dianthus	Di-an-thus	Gritty soil, *see* Cultural Notes p. 52.
Pitcher Plant	Sarracenia	Sar-ra-se-ni-a	Peat, moist sunny position, *see* Cultural Notes, p. 66.
Plantain Lily	Funkia	Funk-i-a	Moist soil.
Poppy	Papaver	Pa-pa-ver	Ordinary, *see* Cultural Notes, p. 60.
Poppy Mallow	Callirhoe	Kal-li-rho-e	Sandy loam, sunny aspect.
Prickly Pear	Opuntia	O-pun-ti-a	Sandy loam & grit, well-drained, dry, sunny position.
Prickly Thrift	Acantholimon	A-kanth-o-li-mon	Rich gritty loam, *see* Cultural Notes, p. 47.
Primrose	Primula	Prim-u-la	Ordinary; other varieties *see* Cultural Notes, p. 61.
Prophet Flower	Arnebia	Ar-ne-bi-a	Moist, well-drained; *see* Cultural Notes, p. 50.
Provence Reed	Arundo	A-run-do	Moist loam.
Purple Loosestrife	Lythrum	Lith-rum	Moist loam.
Pyrenees Dead Nettle	Horminum	Hor-mi-num	Ordinary loam, shade.
Ragged Robin	Lychnis	Lik-nis	Ordinary.
Reed Grass	Arundo	A-run-do	Moist loam.
Rest Harrow	Ononis	O-no-nis	Ordinary; *see* Cultural Notes p. 60.
Rhubarb	Rheum	Rhe-um	Ordinary.
Rock Beauty	Petrocallis	Pet-ro-kal-lis	Sandy loam & grit.
Rock Cress	Arabis	Ar-a-bis	Ordinary.
Rockfoil	Saxifraga	Sax-i-fra-ga	*See* Cultural Notes, p. 60.
Rock Jasmine	Androsace	An-dros-a-se	*See* Cultural Notes, p. 47.

Old English or Popular Name.	Latin or Botanical Name	Pronunciation.	Soil, &c.
Rock Purslane	Calandrinia umbellata	Kal-an-drin-i-a um-bell-at-a	Poor soil, sunny position, *see* Cultural Notes, p. 50.
Rock Rose	Cistus	Sis-tus	Sandy loam, sunny position
Rock Strawberry	Fragaria indica	Fra-gar-i-a in-dic-a	Ordinary ; dry banks, etc.
Rock Wallflower	Cheiranthus	Ki-ranth-us	Loam.
Rocky Mountain Daisy	Townsendia	Town-send-i-a	Loam & peat.
Rose of Sharon	Hypericum	Hi-per-i-kum	Ordinary.
Rosette Mullein	Ramondia	Ra-mon-di-a	Sandy loam & peat, *see* Cultural Notes, p. 63.
Rupture-wort	Herniäria	Her-ni-ar-i-a	Sandy.
Rush Lily	Sisyrinchium	Sis-i-rhink-i-um	Ordinary loam.
Sandwort	Arenaria	Ar-e-nar-i-a	Ordinary loam, *see* Cultural Notes, p. 50.
Satin Leaf	Heuchera	Hoi-ker-a	Ordinary.
Sea Heath	Frankenia	Fran-ken-i-a	Sandy loam & peat.
Self-heal	Prunella	Pru-nel-la	Ordinary.
Sheep's Scabious	Jasione	Jas-i-o-ne	Sandy loam.
Shieldwort	Androsace	An-dros-a-se	*See* Cultural Notes, p. 47.
Skullcap	Scutellaria	Sku-tel-lar-i-a	Ordinary loam.
Snakeweed	Polygonum	Po-lig-o-num	Moist.
Snake's Head	Fritillaria	Fri-til-lar-i-a	Sandy loam.
Snapdragon	Antirrhinum	An-tir-rhi-num	Ordinary loam, *see* Cultural Notes, p. 48.
Snowflake	Leucojum	Lu-ko-jum	Ordinary loam.
Snow-in-Summer	Cerastium	Ser-as-ti-um	Ordinary.
Soapwort	Saponaria	Sa-po-nar-i-a	Ordinary.
Sowbread	Cyclamen	Sik-la-men	Loam & peat, *see* Cultural Notes, p. 51.
Speedwell	Veronica	Ver-on-i-ka	Ordinary ; *see* Cultural Notes p. 68.
Spurge	Euphorbia	U-for-bi-a	Ordinary.
Squaw Vine	Mitchella	Mitch-el-la	Sandy loam & peat, *see* Cultural Notes, p. 58.
Squill	Scilla	Sil-la	Sandy loam.
Star of Bethlehem	Ornithogalum	Or-nith-oğ-al-um	Sandy loam.
Starwort	Aster	As-ter	Ordinary.
Stonecrop	Sedum	Se-dum	Ordinary.
Sun Rose	Helianthemum	Hel-i-an-the-mum	Ordinary loam, sunny aspect.
Sweet Flag	Acorus calamus	Ak-or-us kal-a-mus	Moist loam.
Thrift	Armeria	Ar-mer-i-a	Ordinary.
Thyme	Thymus	Ti-mus	Sandy loam.
Toad Flax	Linaria	Li-nar-i-a	Ordinary loam.
Trinity Flower	Trillium	Tril-li-um	Peat & loam, moist shady position.
Tufted Harebell	Wahlenbergia	Wah-len-ber-gi-a	Gritty loam.
Twin Flower	Linnæa	Lin-ne-a	*See* Cultural Notes, p. 57.
Valerian	Centranthus	Sen-tranth-us	Ordinary.
Venus' Fly Trap	Dionæa	Di-o-ne-a	Moist, spongy soil.
Venus' Navel-wort	Omphalodes	Om-fa-lo-dez	Ordinary loam.
Vervain	Lippia	Lip-pia	Gritty loam.
Virginian Cowslip	Mertensia	Mer-ten-si-a	Deep loam.
Wall Cress	Aubrietia	O-bre-shi-a	Ordinary.
Wallflower	Cheiranthus	Ki-ranth-us	Ordinary.

Old English or Popular Name.	Latin or Botanical Name	Pronunciation.	Soil, &c.
Wand Plant	Galax	Ga-lax	Moist peat, etc., *see* Cultural Notes, p. 54.
Water Arum	Peltandra	Pelt-an-dra	Water garden, *see* p. 80.
Water Flag	Iris pseudo-acorus	I-ris su-do-ak-or-us	Stiff, moist soil.
Water Hawthorn	Aponogeton	Ap-o-no-ge-ton	Water garden, *see* p. 80.
Water Lily	Nymphæa	Nim-fe-a	Water garden, *see* p. 80.
Water Plantain	Alisma	Al-iz-ma	Water Garden, *see* p. 80.
Water Shield	Brasenia	Bras-e-ni-a	Water Garden.
Water Soldier	Stratiotes	Strat-i-o-tez	Water garden, *see* p. 80.
Water Violet	Hottonia	Hot-to-ni-a	Water garden, *see* p. 80.
Whitlow Grass	Draba	Dra-ba	Sandy loam, partially shaded aspect.
Windflower	Anemone	An-em-on-ne	*See* Cultural Notes, p. 48.
Winter Aconite	Eranthus	E-ran-thus	Ordinary.
Wood Lily	Trillium	Tril-li-um	Peat & loam, moist shady position.
Woodruff	Asperula	As-per-u-la	Ordinary.
Wood Sorrel	Oxalis	Ox-al-is	*See* Cultural Notes, p. 60.
Woolly Knotweed	Eriogonum	Er-i-og-o-num	Ordinary loam.
Worm Grass	Spigelia	Spi-gel-i-a	Peat & loam.
Wormwood	Artemisia	Ar-te-mis-i-a	Ordinary soil, sunny position.
Yarrow	Achillea	A-kil-le-a	Ordinary.

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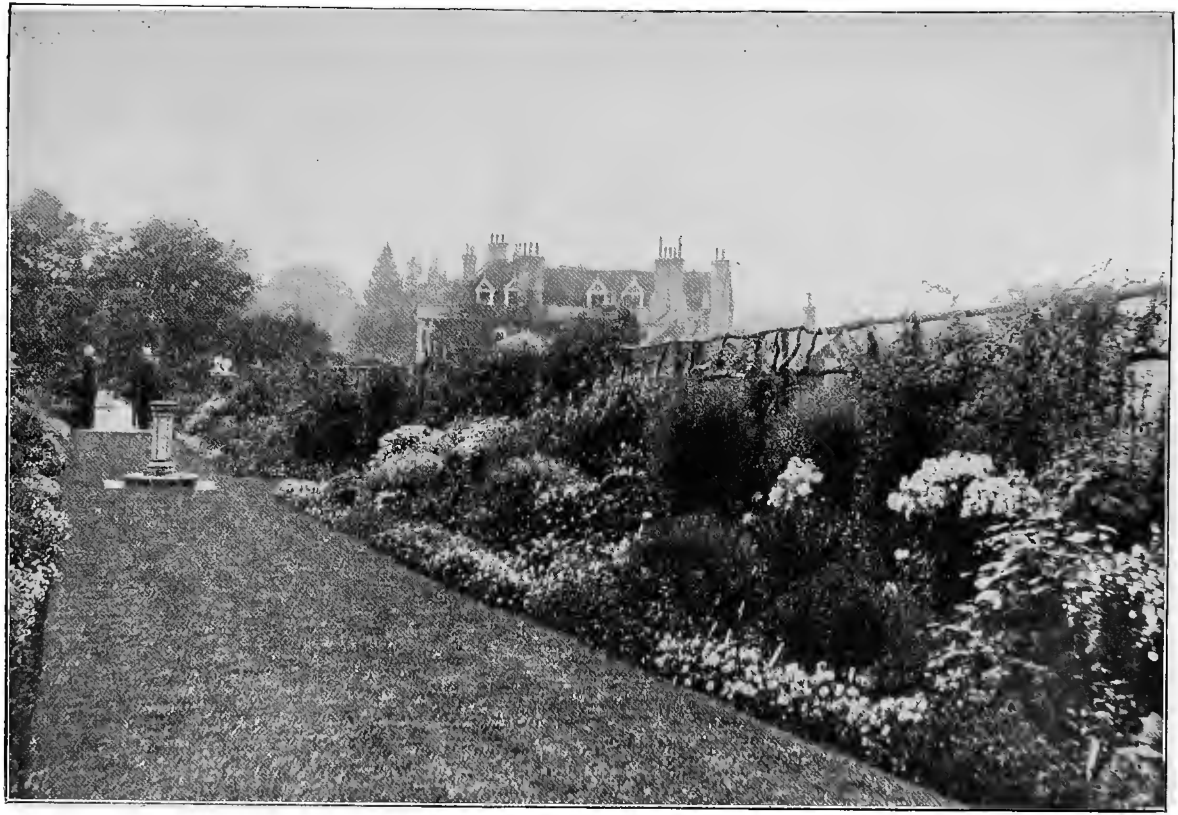

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"Solis et artis opus."
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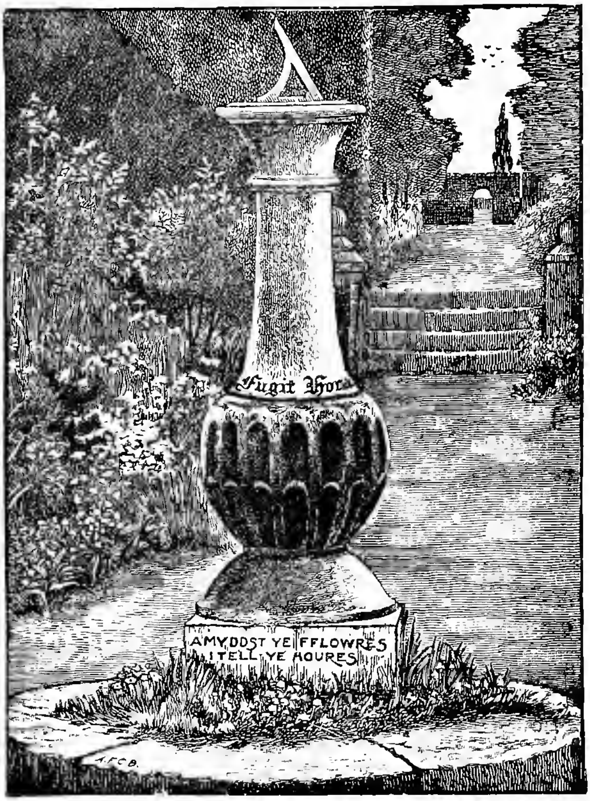

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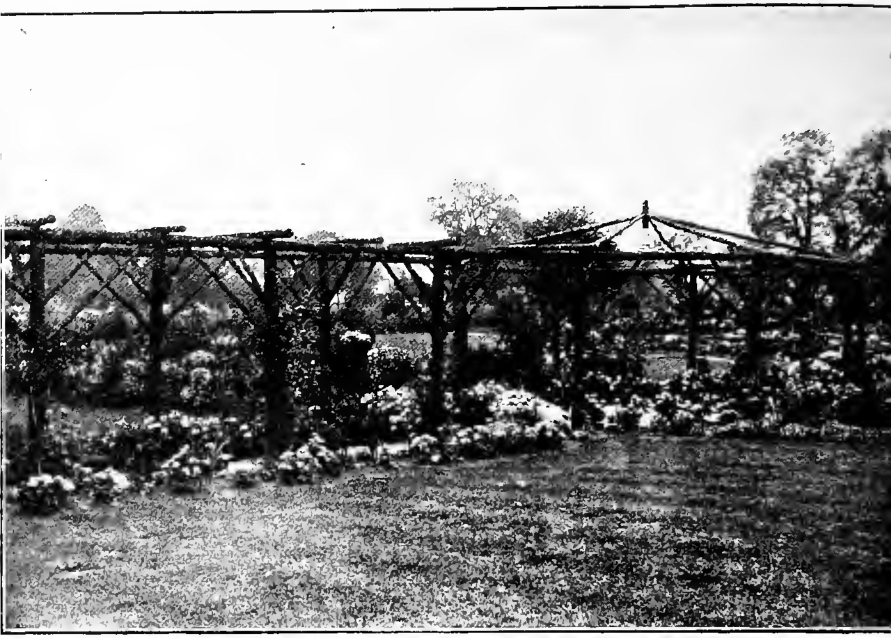

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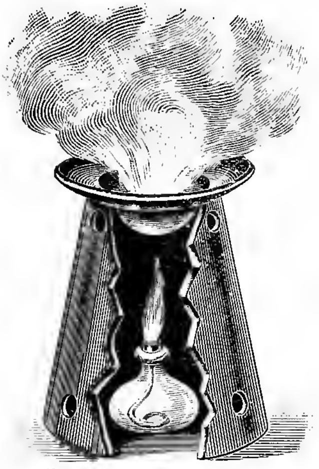

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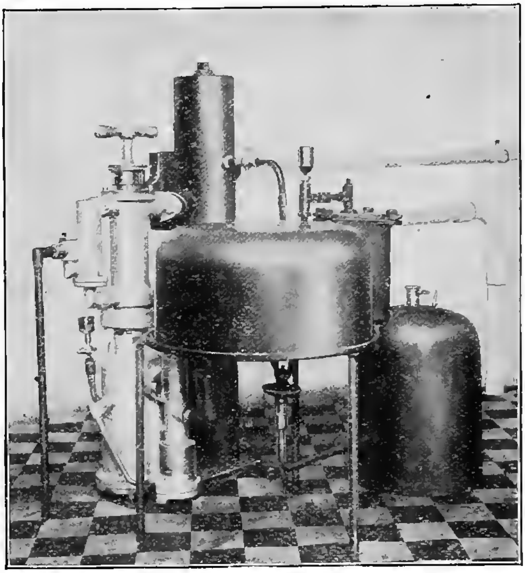

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